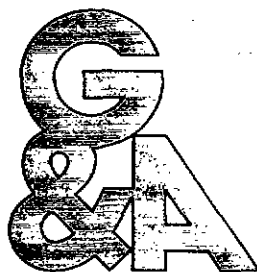


130899



GILMORE & ASSOCIATES INC.
CONSULTING ENGINEERS & LAND SURVEYORS

November 21, 1989

File No. 85-228

U. S. Environmental Protection Agency
Region III
841 Chestnut Building
Philadelphia, PA 19107

Attention: Mike Towle

Reference: Hatboro Borough Authority -
Well No. 16
Air Stripper Design Parameters

Dear Sir:

Enclosed please find one (1) copy of the sample analysis history of Well No. 16 as you requested. Also enclosed please find a graphical summary of the data (See Figure 1 attached).

The sampling began in October of 1979 when it was first discovered that the well contained TCE, and the well was taken out of service. The sampling continued through February of 1985 and then began again in August of this year (1989). As you can see over the past seven (7) years of which samples were taken, the TCE concentration in the raw water did not exceed 60 ppb. The raw water average sample has not exceeded a TCE concentration of 65 ppb at any time.

We feel since the TCE concentration has been well below 100 ppb and is presently between 20 ppb and 40 ppb, that our design for 100 ppb of TCE in the influent would leave ample safety factor to obtain the mandated 5 ppb in the treated water. The air stripping tower has already been designed with additional performance safety factors to maintain a 95% removal as a minimum.

Please respond as soon as possible so that we may incorporate your decision into our design before the work plan deadline.

Should there be any questions regarding the above please do not hesitate to call me.

Very truly yours,

Jan A. Valeriano
Jan Valeriano, Project Engineer
Gilmore & Associates, Inc.

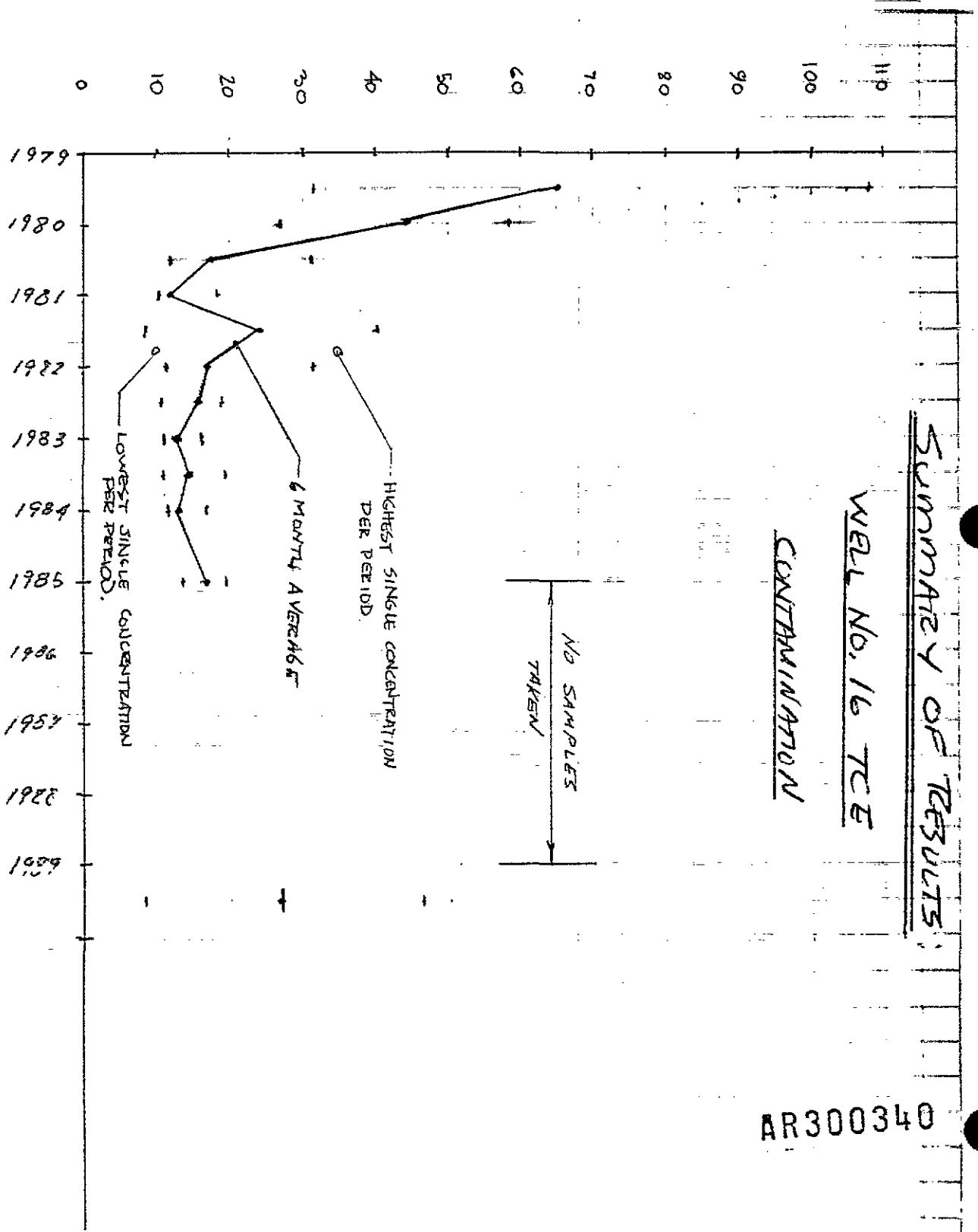
AR300339

Enclosures

JAV.

11/20/89

WELL NO. 16 MONITORING REPORTS



*NOTE: ALL VALUES REPRESENT AN AVERAGE CONCENTRATION OVER A SIX (6) MONTH PERIOD OF TWO (2) OR MORE SAMPLINGS

AR300340



GILMORE & ASSOCIATES INC.
CONSULTING ENGINEERS & LAND SURVEYORS

HATBORO BOROUGH AUTHORITY
WELL WATER SUPPLY SYSTEM
VOC SCAN SUMMARY

BY: INDUSTRIAL CORROSION MANAGEMENT (ICM)
SAMPLED ON 2/26/85; REPORTED ON 3/1/85

WELL	COMPOUND	CONCENTRATION
# 6	None detected above 1 ppb	-
# 7	TCE (Trichloroethylene)	9 ppb
	TCE (Tetrachloroethylene)	1
# 8	TCE	2
# 9	TCE	1
	1, 1, 1 - Trichloroethane	2
#12	TCE	6
#13	None detected above 1 ppb	-
#15	1, 1, 1 - Trichloroethane	2
#16	t- 1, 2 - Dichloroethylene	2
	TCE	14
	PCE	3

AR300341

<u>WELL</u>	<u>COMPOUND</u>	<u>CONCENTRATION</u>
#17	. RAW WATER:	
	1, 1 - Dichloroethylene	1
	t- 1, 2 - Dichloroethylene	57
	1, 1, 1 - Trichloroethane	2
	Carbon Tetrachloride	1
	TCE	464
	PCE	10
	. TREATED WATER:	
	TCE	1
#18	t- 1, 2 - Dichloroethylene	1
	TCE	1
	PCE	5
#20	PCE	1
#21	None Detected above 1 ppb	-

AR300342

Harbor Borough Authority

WATER SERVICE OFFICE

Area Code 215
675-1633
675-1634



120 EAST MONTGOMERY AVE.
HATBORO, PA.
19040

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Morrison
William LaBarge

FROM: David C. Lutz, Assistant Supt.

DATE: 2/10/84

RE: TCE/PCE

Enclosed are results of samples collected February 1, 1984.

Well #7 is again below the EPA recommendations and will be going back on line as soon as possible and resampled in March.

Well #12 is slightly above the recommended levels, this could be lab error or problems with our aeration equipment. Our equipment is being checked. If problems with the equipment are not encountered, a resampling will be done.

Well #18 sample was either misplaced or broken at Quality Control Lab and will be resampled at the time we do Well #12.

AR300343

★

AR300344



QC Inc
QUALITY CONTROL LABORATORY

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA. 18966 • 215/355-3900

*

3

RESULTS OF LABORATORY ANALYSIS -- WATER SERVICE --TYPE 70 PAGE 1 QC0071

DATE RECD 2/02/84 PWS ID
REPORT DATE 2/13/84

DATE TESTED 2/02/84
-BY-DEL

TESTED FOR

05920 HATBORO BOROUGH AUTHORITY
ATT DAVID LUTZ
120 EAST MONTGOMERY AVENUE
HATBORO PA 19040

.....
SAMPLE--POINT--WELL 7 ---I-D NUMBER 8336 DATE SAMPLED 2/01/84
RESULTS ANALYSIS TIME N/A
✓ 2.1 MCG/L TRICHLOROETHYLENE /TCE/
✓ 1. MCG/L PERCHLOROETHYLENE /PCE/

.....
SAMPLE--POINT--WELL 12 RAW ---I-D NUMBER 8337 DATE SAMPLED 2/01/84
RESULTS ANALYSIS TIME N/A
✓ 5.2 MCG/L TRICHLOROETHYLENE /TCE/
✓ LT 0.5 MCG/L PERCHLOROETHYLENE /PCE/

.....
SAMPLE--POINT--WELL 12 TREATED ---I-D NUMBER 8338 DATE SAMPLED 2/01/84
RESULTS ANALYSIS TIME N/A
✓ 5.2 MCG/L TRICHLOROETHYLENE /TCE/
✓ LT 0.5 MCG/L PERCHLOROETHYLENE /PCE/

.....
SAMPLE--POINT--WELL 14 ---I-D NUMBER 8339 DATE SAMPLED 2/01/84
RESULTS ANALYSIS TIME N/A
✓ 213. MCG/L TRICHLOROETHYLENE /TCE/
✓ LT 0.5 MCG/L PERCHLOROETHYLENE /PCE/

AR300345

.....
SAMPLE--POINT--WELL 15 ---I-D NUMBER 8340 DATE SAMPLED 2/01/84
RESULTS ANALYSIS TIME N/A
1.7 MCG/L TRICHLOROETHYLENE /TCE/



QC Inc

QUALITY CONTROL LABORATORY

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA. 18966 • 215/355-3900

3

RESULTS OF LABORATORY ANALYSIS -- WATER SERVICE --TYPE 70 PAGE 2 QC0071

TESTED FOR
05920 HATBORO BOROUGH AUTHORITY

LT 0.5 MCG/L PERCHLOROETHYLENE /PCE/

SAMPLE--POINT--WELL 16	--- <td>DATE SAMPLED</td> <td>2/01/84</td>	DATE SAMPLED	2/01/84
RESULTS	ANALYSIS	TIME	N/A
13.5	MCG/L TRICHLOROETHYLENE /TCE/		
3.6	MCG/L PERCHLOROETHYLENE /PCE/		

SAMPLE--POINT--WELL 17	--- <td>DATE SAMPLED</td> <td>2/01/84</td>	DATE SAMPLED	2/01/84
RESULTS	ANALYSIS	TIME	N/A
345.	MCG/L TRICHLOROETHYLENE /TCE/		
6.4	MCG/L PERCHLOROETHYLENE /PCE/		

ALL PROCEDURES CONFORM TO CURRENT E-P-A METHODOLOGY

LT = LESS THAN

GT = GREATER THAN

EQ = EQUAL TO

QC INC

Albert F. Zimmerman

AR300346

Hatboro Borough Authority

WATER SERVICE OFFICE

★

Area Code 215
675-1633
675-1634



120 EAST MONTGOMERY AVE.
HATBORO, PA.
19040

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Morrison
William LaBarge

FROM: C. Newton Finney, Supt.

DATE: 1/10/84

RE: TCE/PCE

Enclosed are results of samples collected January 5, 1984.

Well #7 is a thorn in my side - one month it's acceptable and the next it's not. According to your instructions, #7 well is again removed from the list of approved sources of supplies and will be pumped to waste Mondays, Wednesdays and Fridays, 24 hr./day until found to be acceptable.

Well #12 (treated water) is just slightly above EPA's recommendations and appears to be on the way down. I'll leave #12 on unless ordered to do otherwise.

Well #18 (PCE) is border line - it bears watching.

AR300347

DATE SAMPLE COLLECTED

1/5/84

DATE SAMPLE ANALYZED

1/10/84

LAB

GC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well # 1	pump to waste 3hr prior to sampling	* 48.8 ↓	0.7 ↓
# 2	"	* 31.5 -	2.5 -
# 3	"	* 19.5 ↓	2.5 -
# 6		1.4 ↑	0.5 ↑
# 7		* 9.1 ↑	0.8 ↓
# 8		2.9 ↓	1.7 ↑
# 9		1.4 ↓	2.5 -
# 12 R/W		* 5.7 ↑	2.5 -
- # 12 Treated		* 4.8 ↓	2.5 -
# 13		1.0 ↑	2.5 -
# 14	pumping to waste Mon, Wed & Fri	* 206 ↓	2.5 -
# 15	CHLORINE PUMP REPAIRS OUT		
# 16	pump to waste 3hr prior to sampling	* 14.4 ↑	3.5 ↓
# 17	pumping to waste 24 hr on 40 hr off - sample end of 24 hr pump period	* 417 ↑	* 6.7 ↓
# 18		2.2 ↑	3.5 ↑
# 20		0.7 ↑	1.1 ↓
# 21		2.5 -	2.5 -
7-11 Store MORELANDS BLAIN MILL		0.7 ↓	0.8 ↓
PS&Co - OKINGEMAN'S RD		0.9 ↑	2.5 -
PS&Co - OKINGEMAN'S RD		1.2 ↑	1.1 ↓

AR300348

Hatboro Borough Authority

WATER SERVICE OFFICE

*

Area Code 215
675-1633
675-1634



120 EAST MONTGOMERY AVE.
HATBORO, PA.
19040

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 10/31/83

RE: TCE/PCE

Enclosed are results of samples collected on October 25, 1983.

The majority of the results are as anticipated - with a few exceptions.

Namely:

- #1) #7 well is over the suggested EPA level - consequently it has been taken off-line and is being pumped to waste Monday, Wednesday and Fridays.
- #2) The TCE results on well's #14 and #17 are questionable (to say the least) somebody goofed!!!!

All three of the above mentioned wells will be resampled on November 3, 1983. I'll keep you posted as to the results as soon as they become available.

AR300349

DATE SAMPLE COLLECTED

10/25/83

DATE SAMPLE ANALYZED

10/29/83

LAB

QC

*

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
WELL #1	PUMP TO WASTE 3 HRS PRIOR TO SAMPLING	* 64.0 ↑	1.0 ↑
WELL #2	STARTER COLL RUINED OUT NO SAMPLE	XXXXXX	XXXXXX
#3	PUMP TO WASTE 3 HRS PRIOR TO SAMPLING	* 20.1 ↑	< .5 -
#6		0.8 ↓	< .5 -
#7		* 11.9 ↑	1.0 ↑
#8		2.5 -	1.0 ↑
#9		1.6 ↑	< .5 -
#12	RAW WATER	* 5.0 ↑	< .5 -
	TREATED WATER	3.3 ↑	< .5 -
#13		< .5 ↓	< .5 -
#14	PUMPING TO WASTE MON, WED + FR	3.3 ?	< .5 -
#15		1.2 ↑	< .5 -
#16	PUMP TO WASTE 3 HRS PRIOR TO SAMPLING	* 15.4 ↑	* 2.0 ↑
#17	PUMPING TO WASTE 24 HOURS 48 HRS OFF SAMPLED END OF 24 HRS	* 25.6 ?	2.3 ?
#18		1.2 ↑	2.3 ↑
#20		< .5 ↓	1.6 ↑
#21		< .5 -	< .5 -
7-11 STORE MORELAND + BLAEMILL		1.2 ↑	2.1 ↑
PSWCO - ORANGEMANS RD	10/26/83		
	10/26/83		

MR300350



1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

VOLATILE ORGANICS BY PURGE AND TRAP GC/MS

STATE CERTIFIED DRINKING WATER LABORATORY NUMBER 14116

Report Date: September 21, 1983

SAMPLE SOURCE: Hatboro Borough Authority Well #16 P.O. 9736
SAMPLE DATE: 9-13-83 TAKEN BY: Hatboro AT LAB DATE: 9-14-83 LAB NUMBER: 25609

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE.....	1, 2-DICHLOROPROPANE.....	GC/MS	GC
BROMOMETHANE.....	c-1, 3-DICHLOROPROPENE.....		
DICHLORODIFLUOROMETHANE.....	t-1, 3-DICHLOROPROPENE.....		
VINYL CHLORIDE.....	TCE (TRICHLOROETHYLENE).....	10.4	12.7
CHLOROETHANE.....	1, 1, 2-TRICHLOROETHANE.....		
METHYLENE CHLORIDE.....	DIBROMOCHLOROMETHANE.....		
ACETONE.....	BENZENE.....		
TRICHLOROFLUOROMETHANE.....	DIISOPROPYL ETHER.....		
1, 1-DICHLOROETHYLENE.....	2-CHLOROETHYL VINYL ETHER.....		
1, 1-DICHLOROETHANE.....	HEXANE.....		
t-1, 2-DICHLOROETHYLENE.....	BROMOFORM.....		
CHLOROFORM.....	1, 1, 2, 2-TETRACHLOROETHANE.....		
1, 2-DICHLOROETHANE.....	PCE (TETRACHLOROETHYLENE).....	1.9	2.4
t-BUTYL METHYL ETHER.....	HEPTANE.....		
1, 1, 1-TRICHLOROETHANE.....	TOLUENE.....		
CARBON TETRACHLORIDE.....	CHLOROBENZENE.....		
BROMODICHLOROMETHANE.....	ETHYLBENZENE.....		

For the above listed volatile priority pollutants, nothing detected at 1 ppb sensitivity level.

6 other peaks detected

LT = Less than, GT = Greater than, ND = Not detected

Hatboro Borough Authority
WATER SERVICE OFFICE

A

Area Code 215
675-1633
675-1634



120 EAST MONTGOMERY AVE.
HATBORO, PA.
19040

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.
DATE: 9/21/83
RE: TCE/PCE

Enclosed are the results of samples collected on September 13, 1983.

We see some slight variations but basically the amounts of contamination remain the same except at Well #7. Well #7 is again below the suggested 4.5 ppb level and will be placed back on line as soon as possible.

AR300352

DATE SAMPLE COLLECTED 4-13-83
 DATE SAMPLE ANALYZED 9/14/83
 LAB QC

★

	LOCATION	*Indicates over max.	TCE ppb	PCE ppb
	WELL #1	pump to waste 3 hr prior to sampling	* 47.6 ↓	<5 -
	#3	pump to waste 3 hr prior to sampling	* 16.6 ↓	<5 -
PROBLEM	#6		3.1 ↑	<5 -
	#7	PUMPING TO WASTE MON - WED - FRI	0.6 ↓	<5 ↓
ELECTRICAL	#8		2.5 ↓	0.5 ↓
	#9		0.6 ↓	<5 -
	#12	Raw Treated	2.5 ↓ 2.5 ↓	<5 - <5 -
ONLINE	#13		0.4 ↑	<5 -
OPERATION	#14	PUMPING TO WASTE MON - WED - FRI	* 146 ↓	<5 -
	#15		<5 ↓	<5 -
NOT	#16	pump to waste 3 hr prior to sampling	* 12.4 ↓	3.0 ↓
2	#17	PUMPING TO WASTE 24 HRS ON 48 HRS OFF SAMPLED END OF 24 HRS	* 293 ↓	* 5.9 ↓
	#18		0.6 ↓	<5 ↓
	#20		0.6 ↓	1.2 ↓
	#21		<5 -	<5 -
	7-11. Stoke Moreland & Blair Mill		1.0 ↓	1.4 -
	PSW Co - Orangetown's Rd		<5 -	<5 -
				AR300353

DATE SAMPLE COLLECTED 8/17/83
 DATE SAMPLE ANALYZED 8/24/83
 LAB QC

~~*~~

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
WELL # 1	PUMP TO WASTE 3 HRS PRIOR TO SAMPLING	* 73.2	< 5
# 2	SHIELD COIL BURNED OUT NO SAMPLE		
# 3		* 26.3	< 5
# 6		2.3	< 5
# 7		9.3	1.2
# 8		3.0	0.9
# 9		1.5	< 5
# 12	TREATED	3.7	< 5
# 12	RAW	5.5	< 5
# 13		< 5	< 5
# 14	Dumping to waste 13N, WCL & FR	* 176	< 5
# 15		4.0	< 5
# 16	PUMP TO WASTE 3 HR PRIOR TO SAMPLING	* 18.3	3.3
# 17	PUMPING TO WASTE 24 HRS ON 48 HRS OFF SAMPLE END OF 24 HR	* 342	* 7.6
# 18		2.4	1.0
# 20		1.2	1.4
# 21		< 5	< 5
7-11 STORE	BLAIR MILL & MORELAND HTA	2.4	1.2
HYDRANT	PSWCO ORANGEMANS RD	< 5	< 5

AR 300354

DATE SAMPLE COLLECTED

7/12/83

DATE SAMPLE ANALYZED

7/13/83

LAB

OC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 Pump to waste 2 hrs Dioxin Sampling	*	63.1	<0.5
#2	*	54.9	<0.5
#3	*	22.1	<0.5
#6		0.8	<0.5
#7	*	4.6	1.1
#8	*	5.3	1.4
#9		<0.5	<0.5
#12 Treated		2.3	<0.5
#12 Raw		3.0	<0.5
#13		<0.5	<0.5
#14 Pumping to waste Mon, Wed & Fri	*	145	<0.5
#15		0.8	<0.5
#16 Pump to waste 3 hrs Dioxin Sampling	*	11.4	3.0
#17 Pumping to waste 24 hr on 48 hr off Sample end of 24 hr period	*	315	* 6.7
#18		1.1	* 4.6
#20		0.8	2.4
#21		<0.5	AR300355 <0.5
7-11 Store Black Mill & Moelland Ave HTA		1.1	0.7

Hatboro Borough Authority

WATER SERVICE OFFICE

Area Code 215
675-1633
675-1634



120 EAST MONTGOMERY AVE.
HATBORO, PA.
19040

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: David C. Lutz, Foreman

DATE: 6/24/83

RE: TCE/PCE

Enclosed are the results of samples collected June 15, 1983.

Well #8, the TCE level has risen but its still below the recommended level. This bears watching.

Once again, well #7 has fallen well below the recommended level for TCE. As of June 23, 1983, the well is back on line until the results of July's samplings are completed.

Well #18, the PCE level has dropped but its still slightly above the recommended level.

Also enclosed are the sampling results on the decaffeinated coffee. The water used to brew the coffee was collected at well #21 which was one of the lowest in TCE/PCE. Two sample bottles were filled (one was a spare) and given to Quality Control Lab to analyze. They analyzed both samples and the results on the PCE are different, reason for this - unknown. Results show the coffee is very low in both TCE & PCE.

AR300356

DATE SAMPLE COLLECTED

6/15/83

★

DATE SAMPLE ANALYZED

6/22/83

LAB

QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well # 1 PUMP TO WASTE 3HRS PRIOR TO SAMPLING		* 98.5 ↓	.7 -
# 2		* 70.4 ↓	.6 ↑
# 3		* 33.7 ↑	.5 ↑
# 6		1.9 ↑	.5 ↑
# 7 PUMPING TO WASTE MON WED + FRI		0.9 ↓	1.0 ↑
# 8		4.2 ↑	2.4 ↑
# 9		2.5 ↓	.5 ↑
# 12 TREATED		2.8 ↓	.6 ↑
# 12 TUN		3.3 ↑	.7 ↑
# 13		2.5 -	.7 ↑
# 14 PUMPING TO WASTE MON WED + FRI		* 227 ↑	1.0 ↑
# 15		0.9 ↓	2.5 ↓
# 16 PUMP TO WASTE 3HRS PRIOR TO SAMPLING		* 18.8 ↑	* 4.3 ↑
# 17 PUMPING TO WASTE 24HRS ON 4TH OF JUNE SAMPLE END OF 24HR PERIOD		* 473 ↑	16.0 ↑
# 18		2.8 ↑	* 3.8 ↓
# 20		.9 ↑	2.1 ↓
# 21		.9 ↑	.8 ↑
7-11 STORE BLAIRMILL + MORELAND AVE HTA		1.7 ↑	1.1 ↑

R300357

DATE SAMPLE COLLECTED

DATE SAMPLE ANALYZED

LAB

*Indicates over max.

TCE
ppbPCE
ppb

SANTA DE ANTONIO COFFEE

#1

<.5

.6

#2

<.5

.7

AR300358

Hatboro Borough Authority

WATER SERVICE OFFICE

Area Code 215
675-1633
675-1634



120 EAST MONTGOMERY AVE.
HATBORO, PA.
19040

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: David Lutz, Foreman

DATE: 6/1/83

RE: TCE/PCE

Enclosed are the results of samples collected May 18, 1983.

If you take note, the majority of wells have risen in TCE levels. Reason! --probably the result of the high amount of rainfall we have experienced this Spring.

PCE levels have also increased in some wells. Well #18 has risen above the recommended levels for PCE. This should be monitored closely, but taking into account the letter from Lewis Luchie of DER dated May 20, 1983, I feel Well #18 could be left on line until the sample results of June have been taken and analysis received.

Well #12 is doing quite well. The addition of the extra six diffusers seems to be working and we should be pleased with the results.

AR300359

DATE SAMPLE COLLECTED

5/18/83

DATE SAMPLE ANALYZED

5/27/83

LAB

SC

LOCATION

*Indicates over max.

TCE
ppbPCE
ppb#1 well pump to waste 3 hr
prior to sampling

* 126 ↑

0.7 ↑

#2

* 77.5 ↑

0.5 -

#3

* 30.1 ↑

2.5 -

#6

1.4 ↑

2.5 -

#7

pump to waste 3 hr
prior to sampling

* 7.9 ↑

0.9 ↑

#8

2.7 ↑

2.1 ↓

#9

1.4 ↑

2.5 -

#10

Raw
Treated

* 4.7 ↑

2.5 -

2.1 ↓

2.5 -

#11

2.5 -

2.5 -

#12

pump to waste 13 hr/day
5/9/83 to 5/19/83

* 205 ↑

0.5 ↓

#13

2.7 ↑

0.5 -

#14

pump to waste 3 hr
prior to sampling

* 12.8 ↑

3.3 ↓

#15

pump to waste 10 hr/day
5/9/83 to 5/30/83

* 331 ↓

* 14.1 ↑

#16

2.0 ↑

* 5.1 ↑

#17

0.7 ↓

2.8 ↑

#18

2.5 -

2.5 -

AR300360

PSWC - Fire Hydrant
Oxandrolone Rd

2.5 ↓

0.8 ↑

Hatboro Borough Authority

WATER SERVICE OFFICE

★

Area Code 215
675-1633
675-1634



120 EAST MONTGOMERY AVE.
HATBORO, PA.
19040

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 4/27/83

RE: TCE/PCE/Sodium/THM

Enclosed are results of samples collected on April 19, 1983. Please note that the TCE/PCE are in ppb - the sodium and THM are in ppm.

The TCE/PCE at well #12 (Quality Control Results) appear to be under control. If you recall - I had promised to collect duplicate samples on this well to verify Quality Control's analysis. Both raw and treated samples were delivered to North Penn Lab, the results are enclosed (see note). Additional samples will be collected and analyzed as soon as possible.

The TCE/PCE in the balance of the wells are normal - there are some variations but basically the same except well #18, where the PCE is high but still under the recommended level. It bears watching.

The sodium content has increased, especially in wells #1, 2 and 3. Well #7 is high along with #14 and #18. Keep in mind that the suggested EPA level is 20 ppm. See attached sodium analysis conducted December 22, 1982.

The THM analysis from all sources is good. Philadelphia Suburban Water Company is high with 36.1 ppm but below the 100 ppm guidelines. Our next regular THM sampling is in the third quarter of this year. Unless I am very much mistaken - the Horsham supply and our own sources will be fairly constant but watch PSWCo. I can visualize something in the neighborhood of 80-85 ppm.

AR300361

DATE SAMPLE COLLECTED

4/19/83

DATE SAMPLE ANALYZED

4/22/83

LAB

GC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb	Sodium PPM
Well #1 pump to waste 3 hr prior to sampling	*	60.1 ↑	<0.5	43.3
#2	*	40.1 ↑	<0.5	41.5
#3	*	15.7 -	<0.5	41.5
#6		0.9 -	<0.5	13.8
#7 pump to waste 3 hr prior to sampling	*	7.0 ↓	0.8 ↑	30.6
#8		2.2 ↓	2.6 ↑	17.2
#9		0.9 ↓	<0.5	13.1
#12 pump to waste 3 hr prior to sampling Treated	*	5.2 ↓ 2.0 ↓	<0.5 <0.5	13.6
#13		<0.5 ↓	<0.5	10.1
#14 pump to waste 3 hr prior to sampling	*	146 ↓	0.6 ↑	28.8
#15		0.9 ↓	<0.5	20.8
#16 pump to waste 3 hr prior to sampling	*	11.8 ↑	*3.8 ↑	17.1
#17 pumping to waste 48 hr etc on 24 hr - off 48 hr etc Sample end of 24 hr pump period	*	432 ↑	*8.2 ↑	12.4
#18		1.4 ↑	3.2 ↑	26.3
#20		0.9 ↑	2.4 ↑	
#21		<0.5 ↓	<0.5	
PSWC - Fire Hydrant Orangeview's Rd		0.9 ↑	0.8 ↑	
Moreland +				

AR300362

Hatboro Borough Authority

WATER SERVICE OFFICE

Area Code 215
675-1633
675-1634



120 EAST MONTGOMERY AVE.
HATBORO, PA.
19040

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 3/22/83

RE: TCE/PCE

Enclosed are results of samples collected on March 17, 1983.

Well #7 is very difficult to coup with - our last results analyzed on February 18, 1983 indicated that the TCE contamination had been reduced to 1.9 ppb, one month later we are back up to 7.3 ppb. The only logical answer that I have to offer for the increase in TCE contamination is that we have had a considerable amount of precipitation in the last few weeks plus the fact that prior to February 18, 1983, we had been pumping #7 well to waste 24hr./day which reduced the pumping level. When resuming a normal pumping schedule our water table increased which could have permitted the cone of influence to spread to high contaminated pockets, thus increasing the TCE contamination. This well has been taken off line as of March 22, 1983 and will be pumped to waste 24hr./day, Monday, Wednesday and Friday until future results indicate that we are again below the recommended EPA levels.

The TCE/PCE results received on #12 well were disappointing to say the least. As discussed at our regular meeting in March, six additional diffusers will be installed as soon as possible. Once this has been accomplished, the well will be put back on line for a maximum of four hours. At the end of the four hour run, samples will be collected and sent to both Quality Control Lab and Betz Lab for analysis.

AR300363

★

DATE SAMPLE COLLECTED 3/17/83
 DATE SAMPLE ANALYZED 3/21/83
 LAB QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 3 hr prior to sampling		* 47.7 ↓	< 0.5 -
#2		* 29.8 ↓	< 0.5 -
#3		* 15.7 ↑	< 0.5 -
#6		0.9 ↓	< 0.5 -
#7		* 7.3 ↑	0.7 ↓
#8		3.1 ↑	1.0 ↑
#9		1.7 ↑	< 0.5 -
#12	0.54		
#13		1.3 ↓	< 0.5 -
#14 pump to waste 24 hr/day sample for <u>Only</u>		* 19.1 ↓	< 0.5 -
#15		1.3 -	< 0.5 -
#16 pump to waste 2 hr prior to sampling		* 11.2 ↓	2.7 ↓
#17 pump to waste 9 hr etc sample for 24 hr prior to		* 42.3 ↑	* 7.5 ↓
#18		1.2 ↑	2.6 ↓
#20		0.6 ↑	2.2 ↑
#21		0.6 ↑	AR300364 < 0.5 -
PSWC - Orangeburg Rd.	Free Hydroxyl	< 0.5 -	< 0.5 -

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 1/20/83

RE: TCE/PCE

Enclosed are results of samples collected on January 13, 1983.

In general, these results are basically the same except for one variation; the TCE/PCE analysis on well #17 is difficult for me to accept. Fact is, it has not been this low since September, October and November of 1981.

#12 well is being pumped to waste 24hrs./day until further notice - as per your request. At our January meeting, the Board did authorize Mr. Schmauk to engineer the installation of the new air diffusers in the detention tank, but if you recall, two questions remained unanswered during the discussion.

- #1. The possibility of an excess amount of entrained air being pumped into the distribution system causing customer complaints.
- #2. The manufacturer of the booster pump (Deming) objecting to an excess of entrained air causing the possibility of cavitation on the impeller and wearing rings.

Hopefully Mr. Schmauk will be able to resolve these two questions and we can proceed with the new installation.

AR300365

DATE SAMPLE COLLECTED 1/13/83
 DATE SAMPLE ANALYZED 1/18/83
 LAB RL

★

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 2 hr prior to sampling		* 73.7 ↓	.6 ↓
2	LI	* 28.6 ↓	<.5 ↓
3	LI	* 13.8 ↓	<.5 —
6		.9 —	<.5 —
7 pumping to waste 24 hr/day		* 8.6 ↑	.9 ↓
8		3.3 ↑	.5 ↑
		<.5 —	<.5 —
12- Off		—	—
12		.8 ↑	<.5 —
12 pump to waste 24 hr/day		* 149 ↓	.5 ↑
		1.6 ↑	<.5 —
12 pump to waste 2 hr on 1/11/83		* 16.0 ↓	* 4.5 ↑
12 pump to waste 24 hr on 1/11/83		* 270 ↓	* 4.6 ↓
		1.6 ↑	2.1 ↓
		.9 ↑	1.6 ↑
		<.5 —	<.5 —
Fire Hydrant		<.5 —	.5 ↑
			0

AR300366

/ *

HATBORD BOROUGH AUTHORITY
HATBORD, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 12/23/82

RE: TCE/PCE

Enclosed are the results of samples collected on December 17, 1982.

Slight fluctuations are evident but nothing outstanding.

The new blower installation will soon be complete at Well #12. Samples (both raw and treated) will be collected after a few hours of operation and I'll inform you of the results as soon as possible.

Well #14 is still being pumped to waste every Monday, Wednesday and Friday per DER's request. I contacted DER yesterday (12/22/82) and questioned Joe Feola on New England Pollution Control's progress at the ARCO gas station. At that point Joe did not have a progress report but would get back to me as soon as possible. I'll keep you informed.

Merry Christmas and a Happy New Year.

AR300367

DATE SAMPLE COLLECTED 12/17/82
 DATE SAMPLE ANALYZED 12/22/82
 LAB QC

★

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 Pump to waste 3 hr prior to sampling	*	63.4 ↑	0.8 ↑
2	"	38.7 ↑	0.6 ↑
3	"	*15.8 ↑	<.5 -
4	"	0.9 ↓	<.5 -
7	"	*6.2 -	1.0 ↓
8	"	0.9 ↓	<.5 ↓
9	"	<.5 ↓	<.5 -
12-New Blower being installed			
13	"	<.5 ↓	<.5 -
14 pumping to waste 24 hr/6th Mon. Wed. Fri. Sat.	*	180 ↓	<.5 -
15	"	0.9 ↓	<.5 -
16 Pump to waste 3 hr prior to sampling	*	18.2 ↑	*1.0 ↑
17 pumping to waste 24 hr/6th Mon. Wed. Fri. Sat. sample collected 24 hr pump present	*	441 ↑	*6.2 ↓
18	"	0.9 ↓	2.6 ↓
20	"	<.5 ↓	1.5 ↓ AR300368
27	"	<.5 -	<.5 -
P5000 Pentamethylenes Ph.	"	<.5 -	<.5 -

X

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

NOV 29 1982

FROM: C. Newton Finney, Supt.

DATE: 11/24/82

RE: TCE/PCE

Enclosed are the results of samples collected on November 17, 1982.

In general, these results are basically the same except for a few variations. The TCE/PCE analysis of #7 well is questionable, either we had an air bubble in the sample, possibly a lab error or is pumping 24 hr./day finally paying off? I authorized another sample to be collected today and with a little cooperation from the lab, I'll have the results late this afternoon. #12 well is still high because of blower failure. The new equipment is due to be shipped December 3, 1982 and should be installed and operating shortly after receiving same. The TCE in #14 well is higher than previous - keep in mind this well has been idle since October 21, 1982.

255 E. Montgomery Avenue is the home of Marti Blake who just recently installed a SeaGull IV Water Purifier (see raw and treated).

On November 18, 1982 DER invited me to attend a meeting to discuss the ARCO gas recovery well. Those present were: Joe Feola, DER water quality specialist, Bob Young, DER hydrogeologist, F. J. Beahan, ARCO construction and maintenance, William Berk, chief geologist of New England Pollution Control and Jerry Naples, Jr., project supervisor of New England Pollution Control. If you recall, in my memo dated October 26, 1982, I stated that the ARCO recovery well had pumped dry and that DER had requested that we discontinue pumping well #14 to waste 24 hr. day for a period of two to three weeks to determine if well #14 did actually have some effect on ARCO's well. On October 21, 1982 I authorized #14 well to be shut down and it has remained idle since that date except for pumping three hours prior to sampling for TCE/PCE on November 17, 1982. The results of a study conducted on the ARCO well since October 21, 1982 indicate that when our well #14 is idle, the static water level in ARCO's recovery and monitoring wells improved. It has continued to improve since we ceased pumping #14 well to waste. Now then - it stands to reason if you read between the lines, ARCO's gas leak (approx. 3,000 gal.) could affect our #14 well. To further investigate this possibility of one well affecting another, I agreed to leave #14 idle until November 29th. On November 29th, #14 well will be pumped to waste twenty-four hours, on

48300369



Page 2 - Memo to All Board Members dated 11/24/82

Wednesday, December 1st another twenty-four hours and Friday, December 3rd still another twenty-four hours. This Monday, Wednesday and Friday schedule is strictly a trial run. It might be determined that to stabilize the static water level in ARCO wells, we might have to reduce the pumping hours at #14 or vice versa.

The geologist recommends that an additional monitoring well be drilled behind the ARCO station on the municipal parking lot. This well would be drilled on or as near a fracture as possible and in line between their recovery well and our well #14 to determine what petroleum products are present. In the meantime - DER will sample our #14 well for the petroleum product compounds and advise us of the results. Incidentally, much larger volumes of samples will be collected to insure accurate results.

In my memo dated October 26, 1982 I stated that I had been pumping well #14 to waste (24 hr./day) since September 10, 1982 and that this procedure had been utilized in an attempt to reduce the contamination in well #12. I went on to state that so far I had failed in my attempt to reduce the TCE contamination in well #12. I informed those present at this meeting that we had been pumping well #14 to waste to protect well #12 and that I was anxious to pump #14 to waste once again. It was suggested that ARCO reimburse us for the TCE/PCE analysis conducted at well #12 during this monitoring period. I don't think it's worth the effort but if you want me to pursue it I will.

New England Pollution Control and DER will keep me abreast of their results. I'll keep you informed of their suggestions or recommendations and/or conclusions when available.

AR300370

DATE SAMPLE COLLECTED

11/17/82

DATE SAMPLE ANALYZED

11/23/82

LAB

BC

★

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well # 1 Pump to waste 3 hr prior to sampling	*	48.3 ↓	< 5 —
2 "	*	35.7 ↓	< 5 —
3 "	*	14.1 ↓	< 5 —
6		1.6 ↓	< 5 —
7 pumping to waste since 8/24/82 24 hr/day		1.2 ↓	.9 ↑
8		2.7 ↓	0.6 ↓
9		1.5 ↓	< 5 —
12	*	8.9	< 5 —
13		0.7 ↓	< 5 —
14 idle since 10/21/82 (pump to waste 3 hr prior to sampling)	*	191 ↑	< 5 ↓
15		1.3 ↓	< 5 —
16 pump to waste 3 hr prior to sampling	*	15.3 ↑	3.0 ↓
17 pumping to waste on 24 hr - off 48 hr sample at end of 24 hr pump period	*	377 ↓	* 7.9 ↓
18		1.9 ↑	3.0 ↑
20		0.8 ↓	1.7 ↓
21		< 5 ↓	AR300374
255 E. Montgomery Raw 7:45 AM		2.3	1.7
255 E. Montgomery - Treated		0.8	< 5
PSW Co. Orangeburn's Rd - Fire Hydrant		< 5 ↓	< 5 —

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 10/26/82

RE: TCE/PCE

I had been monitoring the TCE contamination in well #7 for some time now and had considered discontinuing pumping this well to waste, but upon checking past analysis, I discovered that about the 1st of November of 1981, the TCE contamination came down to an acceptable level. I elected to continue pumping this well to waste until I receive the analysis of samples collected in November.

The TCE contamination in well #8 bears watching, I don't like the way it fluctuates.

Dave Lutz, in his last memo, described the difficulties encountered at well #12. To bring you up to date, the New Sutorbilt Rotary Blower is on order and should be delivered in three to four weeks.

Well #14 has been pumping to waste (24hr/day) since September 10, 1982. This procedure has been utilized to attempt to reduce the TCE contamination in well #14 and to assist in the reduction of the TCE contamination in well #12. It appears that by pumping 24hr/day we have made some progress in the clean-up of #14 well but have failed in our attempt to reduce the TCE contamination in well #12. DER approached me on October 21, 1982 and stated that the recovery well at the ARCO Gas Station had dried-up (so to speak). Their thoughts were, that by pumping well #14 to waste 24hr/day, we had lowered the water table in that area and requested that we discontinue pumping well #14 for a period of two to three weeks. They would monitor the ARCO well and notify us if there were any changes. Upon the completion of DER's monitoring program, I will (unless directed otherwise) again authorize #14 well to be pumped 24hr/day.

Well #18 has settled down - hopefully, it will stay that way.

AR300372

DATE SAMPLE COLLECTED 10/18/82
 DATE SAMPLE ANALYZED 10/25/82
 LAB QC

★

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 Pump to Waste 3 hrs Run to Sampling	*	67.0 ↑	< .5
#2 "	*	41.2 ↑	< .5 ↓
#3 "	*	15.2 ↓	< .5 ↓
6		1.9 ↑	< .5
7 Pumping to waste since 8/24/82 24 hrs/day	*	9.7 ↑	0.8 ↓
8		3.3 ↑	1.0 ↑
9		2.2 ↑	< .5
12 Raw	*	9.1 ↑	< .5
12 Filtered	*	8.1 ↑	< .5
13		1.1 ↑	< .5
14 Pumping to waste since 9/10/82 24 hrs/day	*	17.2 ↓	0.6 ↑
15		2.2 ↑	< .5
16 Pump to waste 3 hrs prior to sampling	*	13.2 ↓	3.3 ↓
17 Pumping to waste on 24 hrs 48 hrs sample 12 of 24 hrs. 24 hrs. 48 hrs.	*	4.08 ↓	* 8.3 ↑
18		0.9 ↓	2.3 ↓
20		0.9 ↑	1.9 ↓
21		0.9 ↑	< .5
PSUCO Overman's Rd - Fire Hydrant		2.2 ↑	< .5

AR300373

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: September 21, 1982

RE: TCE/PCE

Enclosed are results of samples collected on September 15, 1982.

Well #7 has been pumped to waste 24hrs./day since August 24, 1982 but the TCE contamination continues to rise - Why??? I'm going to continue pumping 24hrs./day for another month and see what happens. I realize what this is going to do to our electric bill but I have no other recourse.

I am pleased with the results of #8 Well. As you know, I was concerned last month when the TCE contamination was at 3.7 ppb.

The treated water at #12 Well has improved but still has a long way to go. Hopefully, by pumping #14 Well to waste 24hrs./day will assist in cleanup of #12. We'll see next month.

The PCE contamination in Well #18 has improved tremendously. As you know, the suggested MCL of PCE is 3.55 ppb. These results indicate that the contamination has decreased to 0.9 ppb. As of September 21, 1982, this Well is back on line.

AR300374

DATE SAMPLE COLLECTED

9/15/82

DATE SAMPLE ANALYZED

9/17/82

LAB

GC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1	pump to waste 3 hr prior to sampling	* 62.5 ↓	< .5 ↓
2	u	* 38.2 ↑	0.7 ↑
3	u	* 20.8 ↓	0.7 ↑
6		0.9 ↓	< .5 -
7	pumping to waste since 8/24/82 24 hr/day	* 9.7 ↑	0.8 ↓
8		2.6 ↓	0.8 ↓
9		< .5 -	< .5 -
12	RAW	* 8.8 ↑	< .5 -
12	Treated	* 6.2 ↓	< .5 -
13		< .5 -	< .5 -
14	pumping to waste since 9/10/82 24 hr/day	* 3.3 ↓	< .5 ↓
15		0.9 ↓	< .5 -
16	pump to waste 3 hr prior to sampling	* 16.6 ↑	* 4.2 ↑
17	pumping to waste (on 24 hr - off 48 hr etc.)	* 54.2 ↓	* 6.7 ↓
Sample at end of 24 hr pump period			
18	pumping to waste since 8/3/82 24 hr/day	0.7 ↓	0.9 ↓
20		< .5 -	2.0 ↓
21		< .5 -	< .5 -
PSWC Orangeburg Rd. Fire Hydrant		< .5 -	< .5 -

AR300375

*

HATBORD BOROUGH AUTHORITY
HATBORD, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

AUG 24 REC'D

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 8/23/82

RE: TCE/PCE

The TCE contamination in Well #1 has doubled in the last two months. Normally, it fluctuates between the high 40's to the low 50's. Back in October and November of 1980, it did go slightly above what we see today but then gradually returned to what I would consider average.

The TCE contamination in Well #7 is constantly increasing. As you know, this Well was taken off line on July 22, 1982. It has been idle ever since except for pumping three hours prior to sampling. I strongly believe that if we were permitted to pump this Well to waste twenty-four hours per day we could reduce the contamination level to an acceptable level, and at that point, return this Well to service. I'd like to have your comments.

I don't like the TCE contamination at Well #8, it bears watching.

The TCE contamination at Well #12 (raw and treated) is questionable. At this writing, we believe there is a problem with either the blower or the diffusers, it has not been determined as yet. I'll keep you posted.

The PCE contamination at Well #18 has improved. If this trend continues, we can consider re-instating this Well back to service in the near future. Incidentally, we have been pumping to waste twenty-four hours per day since August 3, 1982.

AR300376

DATE SAMPLE COLLECTED

5/16/82

DATE SAMPLE ANALYZED

8/20/82

LAB

QC

*

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 3 hr prior to sampling		* 73.9 ↑	0.6 -
#2		* 37.6 ↓	<.5 -
#3		* 25.7 ↓	<.5 -
#6		1.5 ↑	<.5 -
#7 off 7/22/82		* 9.5 ↑	2.7 ↑
#8		3.7 ↑	1.3 ↑
#9		<.5 -	<.5 -
#12 Row		* 7.7 ↑	<.5 -
#12 Treated		* 7.7 ↑	<.5 -
#13		<.5 -	<.5 -
#14 idle since 6/17/81 (pump to waste 3 hr prior to sampling)		* 33.5 ↑	0.9 ↑
#15		1.1 ↑	<.5 -
#16 (pump to waste 3 hr prior to sampling)		* 16.5 ↑	* 3.9 ↑
#17 (pump to waste 24 hr - off 48 hr etc) Sample at end of 24 hr pump period		* 56.3 ↓	* 8.7 ↓
#18 pumping to waste 24 hr/day		1.7 ↓	* 4.2 ↓
#20		<.5 -	2.7 ↑
#21		<.5 -	AR300377 <.5 -
PSWC Orangethorpe Rd - Fire Hydrant		<.5 -	<.5 - THM percent
11711 7-11 Store Moreland & Blair Mill		2.7 ↓	0.9 ↑

★

HATBORO BOROUGH AUTHORITY

HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 7/23/82

RE: TCE/PCE

Enclosed are results of samples collected on July 14, 1982.

These results indicate that the amount of contamination in the majority of our wells is increasing. These high peaks have shown their ugly faces in the past but normally simmer down after a few weeks. I have hopes that history will repeat itself this time.

If you will notice, well #7 has decreased from 8.2 ppbTCE to 7.9 ppbTCE. This indicated a slight improvement but still above the recommended MCL. As instructed, well#7 is off line and will remain so until the contamination level is acceptable. Under normal circumstances, we usually pump approximately 700,000 gallons per week from this source. Consequently I have authorized an increased flow from Horsham Township Authority.

Well #12 treated water is slightly above the recommended contamination level. To correct this situation, we plan to reduce the discharge thus increasing the detention time - hopefully this will prove beneficial.

Well #18 was shut down at the time the TCE/PCE samples were collected because of a malfunction of the chlorine pump. A sample was collected on July 22, 1982 and the results should be available in a few days. I'll inform you of the results when available.

AR300378

DATE SAMPLE COLLECTED

DATE SAMPLE ANALYZED

LAB

OC

★

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 3hr prior to sampling	*	67.8 ↑	0.6 —
#2	*	47.5 ↑	<.5 —
#3	*	27.3 ↑	<.5 —
#6		1.1 ↓	<.5
#7 off 7/22/82	*	7.9 ↓	1.1 ↑
#8		2.2 ↓	1.0 ↑
#9		<.5 —	<.5 —
#12 Raw	*	5.9 —	<.5 —
#12 Tested	*	4.8 ↑	<.5 —
#13		<.5 —	<.5 —
ER will keep their piles at 1000 #14 idle since 6/17/81 (pump to waste 3hr prior to sampling)	*	296 ↑	0.5 —
#15		0.9 ↑	<.5 —
#16 (pump to waste 3hr prior to sampling)	*	16.2 ↑	* 3.8 ↑
#17 Con pumping to waste 24 hr — off 40 hr c/p) Sample at end of 24 hr pump period	*	581 ↑	* 9.5 —
#18 off for Chlorine Pump Repair			
#20		<.5 —	2.4 ↑
#21		<.5 —	AR300379 <.5 —
PELCO ORANGEHILL'S Rd - Tire Hubs out		<.5 —	<.5 —
11471 - - - - - at end of 10/1/81		2.4 ↑	1.1 —

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

JUN 28 REC'D

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 6/25/82

RE: TCE/PCE

Enclosed are results of samples collected on June 17, 1982 and June 23, 1982. The TCE contamination in well #7 is continuously creeping up. Fact is - this is the highest ever recorded.

The PCE contamination in well #18 has been fluctuating around the 6ppb since May 1982. Keep in mind that the suggested or recommended MCL is 4.5 ppb TCE and 3.55 ppb PCE (See copy of letters from DER dated March 13, 1981 and August 24, 1981 for approved variations to the limits).

Well #6 is being re-sampled June 23, 1982. Results should be available by Friday the 25th. I have no logical reason for the erroneous results. Actually it looks like well #17!!!!

Well #12 appears to be under control. If I can believe these results, the diffusers are doing a job. We'll see.

If you'll notice the TCE contamination in well #16 is not that much higher at present than well #7.

I'd suggest that you would consider permitting me to re-instate well #16 - that is as long as I can keep the contamination at or close to its present level. This well is capable of producing 250-300 GPM. Let me know.

AR300380

DATE SAMPLE COLLECTED

6/17/82

DATE SAMPLE ANALYZED

6/22/82

B

QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 3hr prior to sampling.	*	36.7 ↓	0.6 ↑
#2	*	43.4 ↑	<.5 -
#3	*	24.5 ↑	<.5 -
#6 Re-sample	*	504 ?	* 8.7 ?
#7	*	8.2 ↑	0.9 ↓
#8		3.0 ↑	0.7 ↓
#9		<.5 -	<.5 -
#12 RAW	*	3.9 ↑	<.5 -
#12 Treated		3.8 ↓	<.5 -
#13		<.5 -	<.5 -
#14 idle since 6/17/81 (pump to waste 3hr prior to sampling).	*	228 ↓	<.5 ↓
#15		0.8 -	<.5 -
#16	*	10.7 ↓	2.5 ↓
#17 (on 24hr - off 48hr etc) Sample at end of 24hr pump period	*	494 ↓	* 9.5 ↑
#18		1.6 ↓	* 6.2 ↑
#20		<.5 -	1.5 ↓
#21		<.5 -	<.5 -
PSWC.		<.5 -	<.5 -
Dunsmuir's Rd. - Fire Hydrant		<.5 -	<.5 -
LT-1		1.3 ↓	0.6 ↑

AR300381



QC Inc

QUALITY CONTROL LABORATORY

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966 • (215) 673-4900 • (215) 355-3900

Ratboro Borough Authority
120 East Montgomery Ave.
Ratboro, Penna. 19040

Attn: Mr. C. Newton Finney, Supt.

Sampled - May 20, 1982

Reported - June 7, 1982

Sampled - delivered

cc: Norristown

Robert Gilmore & Assoc. Inc.

SAMPLE IDENTIFICATION

TCE
ppb

PCE
ppb

(QC#4270)	#1	53.5	< 0.5
(QC#4271)	#2	40.6	< 0.5
(QC#4272)	#3	23.9	< 0.5
(QC#4273)	#6	1.1	< 0.5
(QC#4274)	#7	6.1	1.0
(QC#4275)	#8	2.5	1.0
(QC#4276)	#9	<0.5	< 0.5
(QC#4277)	#12	4.6	< 0.5
(QC#4278)	#13	2.5	< 0.5
(QC#4279)	#14	260.	0.6
(QC#4280)	#15	0.8	< 0.5
(QC#4281)	#16	16.6	2.7
(QC#4282)	#17	544.	8.9
(QC#4283)	#18	2.0	6.4
(QC#4284)	#20	< 0.5	1.6
(QC#4285)	#21	< 0.5	< 0.5
(QC#4286)	PSWCO	< 0.5	
(QC#4287)	HTA (7-11 Moreland Rd.)	1.6	< 0.5

AR300382

QC. INC.

Albert F. Zimmerman

*

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 5/25/82

RE: TCE/PCE

Wells #7 and #12 are above the recommended TCE levels. Number 12 is equipped with air diffusers and will be utilized as soon as possible to reduce the amount of contamination. Number 7 well, if you recall, gave me fits last year but finally cleared up.

Well #18 is above the recommended PCE level and should be monitored very closely.

The contamination in Wells #14 and #17 are higher than normal. Well #14 has been idle since June 17, 1981 and well #17 has been on a reduced pumping schedule (24 hr. on - 48 hr. off, etc.) since November 25, 1981. There is that probability that by not pumping these two wells to waste twentyfour hours a day we have permitted the contamination to spread to wells #7 and #12. The question remains - How do you want me to handle the problem? To pump these wells to waste increases the power consumption tremendously or should I leave them idle and take the chance!!

Incidentally, on the 27th we will be collecting additional samples for the TCE/PCE contamination at wells #7, 12, 18 and the observation well #19. In addition, we will be sampling the stream adjacent to wells #7, 12 and 18.

I'll keep you informed.

AR300383

DATE SAMPLE COLLECTED 5/18-19/82
 DATE SAMPLE ANALYZED 5/24/82
 LAB GC

★

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1	pump & waste 3 hr prior to sampling	* 53.5 ↑	< .5
#2		* 40.6 ↓	< .5
#3		* 23.9 ↓	< .5
#6		1.1 ↑	< .5
#7		* 6.1 ↑	1.0 ↑
#8		2.5 ↑	1.0 ↑
#9		< .5	< .5
#12	blown off 9/23/81	* 4.6 ↑	< .5
#13		< .5	< .5
#14	Well since 4/11/81 (pump & waste 3 hr prior to sampling)	* 26.2 ↑	0.6 ↑
#15		0.8 ↑	< .5
#16		* 16.6 ↑	2.7 ↑
#17	Well since 4/11/81 (pump & waste 3 hr prior to sampling)	* 54.4 ↑	5.7 ↑
#18	Sample at end of 2 hr down period	2.0 ↑	5.4 ↑
#19		< .5	1.6 ↑
#21		< .5	< .5
PSO Co		< .5	1.5
		1.6	< .5 ↓

AR300384



QUALITY CONTROL LABORATORY

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966 • (215) 673-4900 • (215) 355-3900

APR 30 REC'D

Date Submitted: April 15, 1982

Date Reported: April 26, 1982

Hatboro Borough Authority
120 East Montgomery Avenue
Hatboro, Pa. 19040

Att: Mr. C. Newton Finney

<u>Sample</u>	<u>QC #</u>	<u>TCE</u> <u>ppb</u>	<u>PCE</u> <u>ppb</u>
Well #1	4046	42.1	<0.5
Well #2	4047	40.7	<0.5
Well #3	4048	26.2	<0.5
Well #6	4049	1.0	<0.5
Well #7	4050	5.8	0.7
Well #8	4051	2.4	0.6
Well #9	4052	<0.5	<0.5
Well #12	4053	3.9	<0.5
Well #13	4054	<0.5	<0.5
Well #14	4055	229.	<0.5
Well #15	4056	<0.5	<0.5
Well #16	4057	11.3	2.3
Well #17	4058	355.	6.5
Well #18	4059	0.7	3.4
Well #20	4060	<0.5	1.3
Well #21	4061	<0.5	<0.5
Hydrant, Orange Rd.	4062	<0.5	<0.5
7-11 Moreland & Blair	4063	0.9	0.6

AR300385

Q C Lab

Walt F. Zimmermann

jsl

cc: Norristown

✓ Robert D. Gilmore & Assoc.

HATBORD BOROUGH AUTHORITY
HATBORD, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE S-1633
OSBORNE S-1634

APR 29 REC'D

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker
William Morrison

FROM: C. Newton Finney, Supt.

DATE: 4/26/82

RE: TCE/PCE

As I stated in my memo on March 19, 1982, I was concerned about well #7 and rightfully so - if the contamination level remains at its present level, we have a duplication of 1981 coming up. I authorized another sample collected today and results should be available later on this week.

Well #12 is increasing and will be watched very closely.

AR300386

DATE SAMPLE COLLECTED

4/15/82

DATE SAMPLE ANALYZED

4/22/82

LAB

OC

★

LOCATION	*Indicates over max.	TCE ppb	PCE ppb	III
Well #1	pump to waste 3 hr prior to sampling	* 42.1	2.5	0.7
#2		* 40.7	2.5	2.5
#3		* 26.2	2.5	2.5
#6		1.0	2.5	0.6
#7		* 5.8	0.7	2.5
#8		2.4	0.6	2.5
#9		2.5	2.5	2.5
#12	blower off 9/23/81	3.9	2.5	2.5
#13		2.5	2.5	2.5
#14	idle since 6/17/81 (pump to waste 3 hr prior to sampling)	* 229	2.5	1.6
#15		2.5	2.5	2.5
#16	pump to waste 3 hr prior to sampling	* 11.3	2.3	2.5
#17	pumping to waste (on 24 hr - off 48 hr cycle) Sample at end of 24 hr pump period	* 355	* 6.5	0.7
#18		0.7	3.4	2.5
#20		2.5	AR 300387	1.1
#21		2.5	2.5	2.5
PSWC				
Duracoma's Rd - Fire Hydrant		2.5	2.5	2.5
11-1		0.0	1.1	1.6



Q.C. Inc

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, Pa. 19040

Attn: Mr. C. Newton Finney, Supt.

Sample Date - 3-15-82
Reported - March 25, 1982

cc: Norristown
✓ Robert D. Gilmore & Assoc. Inc.

MAR 29 1982

SAMPLE	1,1,1 Trichloroethane ppb	TCE ppb	PCE ppb
Well 1 (QC#3846)		50.	0.7
Well 2 (QC#3847)		37.4	< 0.5
Well 3 (QC#3848)		31.	< 0.5
Well 6 (QC#3849)		1.3	< 0.5
Well 7 (QC#3850)		4.5	1.1
Well 8 (QC#3851)		3.1	0.9
Well 9 (QC#3852)		0.8	< 0.5
Well 12 (QC#3853)		3.5	< 0.5
Well 13 (QC#3854)		< 0.5	< 0.5
Well 14 (QC#3855)		218.	0.6
Well 15 (QC#3856)		0.8	< 0.5
Well 16 (QC#3857)		13.8	2.3
Well 17 (QC#3858)		410.	6.0
Well 18 (QC#3859)		1.2	4.0
Well 21 (QC#3860)		< 0.5	< 0.5
7 -11 Store (QC#3861) Elairmill & Moreland		0.8	1.2
Hydrant-Orangemans Rd. (QC#3862)		< 0.5	< 0.5

AR300388
Q.C. INC. *Albert F. Zimmerman*

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MAR 22 1982

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert S. Doorley
Charles J. Acker
William E. Morrison

FROM: C. Newton Finney, Supt.

DATE: 3/19/82

RE: TCE/PCE

Attached are results of samples collected on March 16, 1982.

You will note that the TCE in #7 well is holding right on the max. If you recall, last year at this time #7 well was giving me fits but finally settled down.

The PCE contamination in well #18 appears to be increasing slightly. This well on occasions fluctuates right around the max suggested level of 3.55 ppb. Of course we all know the percentage of error that is possible when analyzing for TCE/PCE, especially in the low ranges, but it still bothers me. Well #18 bears watching.

AR300389

DATE SAMPLE COLLECTED 3/16/82
 DATE SAMPLE ANALYZED 3/18/82
 LAB QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1	pump to waste 3 hr prior to sampling	* 50.0 ↑	0.7
#2	" "	* 32.4 ↑	<.5 -
#3	" "	* 31.0 ↑	<.5 -
#6	" "	1.3 -	<.5 -
#7	" "	4.5 -	1.1 -
#8	" "	3.1 ↑	0.9 ↑
#9	" "	.8 ↑	<.5 -
#12	blower off 9/23/81	3.5 ↓	<.5 -
#13	" "	<.5 -	<.5 -
#14	idle since 6/17/81 (pump to waste 3 hr prior to sampling)	* 21.8 ↓	.6 ↑
#15	" "	.8 ↓	<.5 -
#16	pump to waste 3 hr prior to sampling	* 13.8 ↓	2.3 -
#17	pumping to waste (on 24 hr - off 48 hr etc) Sample at end of 24 hr pump period	* 4.0 ↓	* 6.0 ↓
#18	" "	1.2 ↓	* 4.0 ↑
#20	out for repairs	XXXX	XXXX
#21	" "	<.5 -	AR390390
PSWC Orange-man's Rd - Fire Hydrant	" "	<.5 -	<.5 -
47A. 7-11 Foreland - Black Mill	" "	.8 ↓	1.2 -



QC Inc

QUALITY CONTROL LABORATORY

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966 • (215) 673-4900 • (215) 355-3900

Date Sampled: Feb. 17, 1982

Date Reported: Feb. 26, 1982

Hatboro Borough Authority
120 East Montgomery Avenue
Hatboro, Pa. 19020

Att^y: Mr. C. Newton Finney

Sample	TCE ppb	PCE ppb	THM ppb
Well #1 (QC #3671)	42.5	0.5	
Well #2 (QC #3672)	31.8	<0.5	
Well #3 (QC #3673)	15.3	<0.5	
Well #6 (QC #3674)	1.3	<0.5	
Well #7 (QC #3675)	5.5	1.0	
Well #8 (QC #3676)	2.5	0.7	
Well #9 (QC #3677)	<0.5	<0.5	
Well #12 (QC #3678)	3.0	<0.5	
Well #13 (QC #3679)	<0.5	<0.5	
Well #14 (QC #3680)	224.	0.5	
Well #15 (QC #3681)	1.3	<0.5	
Well #16 (QC #3682)	17.	2.3	
Well #17 (QC #3683)	475.	7.0	
Well #18 (QC #3684)	1.7	4.9	
Well #20 (QC #3685)	<0.5	1.8	
Well #21 (QC #3686)	<0.5	<0.5	
HTA, 7-11, Moreland & Blairmill (QC #3669)	1.9	1.2	3.9
PSWCO (QC #3670)	<0.5	<0.5	37.7

AR300391

cc: Morristown
Robert D. Gilmore

Q C Lab.

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

FEB 25 REC'D

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 2/23/82

RE: TCE/PCE/TTHM

As you all know, wells 14 and 17 have been off the line since late in 1979. Wells 1, 2, 3 and 16 were removed at the same time but reinstated in 1981 by special permission from DER.

As of February 1, 1982, wells 1, 2, 3 and 16 were again removed, bringing the total wells off line back up to six once again. Actually, these results indicate in general that the contamination is increasing. Keep in mind that the recommended MCL is 4.5ppb TCE and 3.55 ppb PCE. If you'll notice, well #7 is high in TCE and well #18 is high in PCE. When the water table is high, the amount of contamination increases, this could account for the increase or could it be that we are confronted with the built-in error I discussed in a previous memo (20 to 40% + error).

With your permission, I will keep wells 7 and 18 on line and resample March 3, 1982. If you do not agree - please notify me at once.

AR300392

DATE SAMPLE COLLECTED 1/17/82
 DATE SAMPLE ANALYZED 2/22/82
 GC

Trihalomethane
 Dibromochloromethane
 Bromoform

TTHM - Total Trihalomethane
 Not to exceed 100 PPB

LOCATION	*Indicates over max.	TCE ppb	PCE ppb	TTHM
Well #1 pump to waste 3 hr prior to sampling		42.5 ↓	0.5 ↓	X
#2		31.8 ↑	2.5 -	X
#3		15.3 ↑	2.5 -	X
#6		1.3 ↑	2.5 -	X
#7		5.5 ↑	1.0 ↑	X
#8		2.5 -	0.7 ↑	X
#9		2.5 -	2.5 -	X
#12 blow off 9/23/81		3.0 ↓	2.5 -	X
#13		2.5 -	2.5 -	X
#14 idle since 6/17/81		22.4 ↑	0.5 -	X
#15		1.3 ↑	2.5 -	X
#16 pump to waste 3 hr prior to sampling		17.0 ↓	2.3 ↑	X
#17 pump to waste (could be off 48 hr etc) Sample at end of 24 hr pump period		47.5 ↑	7 ↑	X
#18		1.7 ↑	4.9 ↑	X
#20		2.5 -	1.8 ↑	X
#21		2.5 -	AR300393	X
PS100 Oxygenated Fuel - Fire Hydrant		2.5 -	2.5 -	37.7
HTA - 4-11 Maryland Blue Hill Rd		1.9 ↓	1.2 ↑	3.9

X

HATBORD BOROUGH AUTHORITY
HATBORD, PENNSYLVANIA

JAN 27 REC'D

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633.
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 1/26/82

RE: TCE/PCE

Enclosed are results of samples collected on January 20, 1982.

The results of #1 Well indicate that we are above the most recent ICL for TCE (45ppb). The big question always comes to mind - these results could be 20 - 40+% error. Is it actually 30ppb or is it 60ppb or somewhere in between?

As I stated at the last Authority meeting, I anticipate an MCL of 20 ppb TCE and 10ppb PCE by the first of February 1982. Even at the new MCL, what do we believe. If I receive results of 20ppb TCE - what do I have?

If the MCL is not established by the first of February and I revert back to the original ICL of 4.5ppb TCE and 3.5ppb PCE, I lose Well's #1, #2, #3 and #16 which represent a loss of approximately 650 GPM. With the loss of Well's #14 and #17 the total loss of all six Wells amounts to approximately 1100 GPM.

Now then - if the MCL is established by the first of February (20ppb TCE - 10ppb PCE) I lose Wells #1, #2 and #16, representing a loss of approximately 570 GPM along with Wells #14 and #17. The total loss of the five Wells amounts to approximately 1020GPM.

If and when I receive the new MCL, I'll inform you immediately.

AR300394

DATE SAMPLE COLLECTED

1/20/82

DATE SAMPLE ANALYZED

1/22/82

B

GC

★

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 on Line 10/15/81		45.2 ↑	.6 ↑
#2 on Line 9/24/81		27.6 ↑	<.5 ↓
#3 on Line 8/18/81		11.7 ↓	<.5 ↓
#6		0.8 ↓	<.5 -
#7		4.2 ↓	.6 -
#8		2.5 ↑	<.5 -
#9		<.5 -	<.5 -
#12 blowen off 9/23/81		3.6 ↑	<.5 -
#13		<.5 -	<.5 -
#14 idle since 6/17/81		225.8 ↓	<.5 ↓
#15		1.1 ↓	<.5 -
#16		31.9 ↑	1.4 ↑
#17 pump & waste (on 2+ hr - one 40 hr note) Sample at end of 2+ hr pump period		408 ↓	4.3 ↓
#18		1.4 ↑	2.4 ↓
#20		<.5 -	1.7 ↑
#21		<.5 -	<.5 -
PSWC Orangethorpe Rd - Fire Hydrant		<.5 -	<.5 -
HTA - 7-11 Alameda & Blom Mill Rd		2.1 ↑	1.0 ↓

AR300395



QC Inc

QUALITY CONTROL LABORATORY

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966 • (215) 673-4900 • (215) 355-3900

Date Submitted: Dec. 17, 1981

Date Reported: Dec. 29, 1981

Hatboro Borough Authority
120 E. Montgomery Avenue
Hatboro, Pa. 19040

Att: Mr. Newton Finney

<u>Sample</u>	<u>Q C#</u>	<u>TCE ppb</u>	<u>PCE ppb</u>	<u>Sample</u>	<u>QC #</u>	<u>TCE ppb</u>	<u>PCE ppb</u>
Well #1	3325	31.6	0.5	Well #16	3336	20.2	1.2
Well #2	3326	25.9	0.6	Well #17	3337	482.	5.0
Well #3	3327	15.1	0.6	Well #18	3338	0.9	2.6
Well #6	3328	1.3	<0.5	Well #20	3339	<0.5	1.6
Well #7	3329	4.5	0.6	Well #21	3340	<0.5	<0.5
Well #8	3330	2.2	<0.5	ATA 7-11			
Well #9	3331	<0.5	<0.5	Blairmill &			
Well #12	3332	3.2	<0.5	Madand	3341	1.8	1.5
Well #13	3333	<0.5	<0.5	PSWCO-Hydrant	3342	<0.5	<0.5
Well #14	3334	246.	0.7				
Well #15	3335	1.5	<0.5				

Robert J. Jannemann
Q C Lab. _____

AR300396

JSL

cc; Norristown

Kilmore & Assoc.

A

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 12/22/81

RE: TCE/PCE

Enclosed are results of samples collected on December 17, 1981.

These results indicate some very minor changes but in general are remaining fairly constant, consequently we are not planning on collecting samples again until January 18, 1982.

HO! HO! HO!

MERRY CHRISTMAS AND A VERY
HAPPY NEW YEAR

AR300397

DATE SAMPLE COLLECTED 12/17/01
 DATE SAMPLE ANALYZED 12/21/01
 LAB GC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 on Line 10/15/01		31.6 ↑	5 ↓
#2 on Line 9/24/01		25.9 ↑	0.6 ↓
#3 on Line 8/10/01		15.1 ↓	0.6 —
#6		1.3 ↑	<.5 —
#7		7.5 ↑	.6 ↑
#8		2.2 ↓	<.5 ↓
#9		<.5 ↓	<.5 —
#12 blower off 7/23/01		3.2 ↓	<.5 —
#13		<.5 —	<.5 —
#14 idle since 6/17/01		246 ↑	0.7 —
#15		1.5 ↑	<.5 —
#16		20.2 ↑	1.2 ↑
#17 pump to waste (on 24 hr - off 48 hrs) Sample on eve of 24 hr pump period		482 ↓	5.0 ↑
#18		0.9 ↓	2.6 ↓
#19		<.5 ↓	1.6 ↓
#21		<.5 ↓	<.5 ↓
PSUC. ORANGE MAN'S Rd - Fike Hydrostat		<.5 —	<.5 ↓
UTA - 7-11 Maryland Blvd NW		1.8 ↓	1.5 ↓

AR300398

★

HATBORD BOROUGH AUTHORITY
HATBORD, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 12/11/81

RE: TCE/PCE

Enclosed are results of samples collected on December 8, 1981.

Wells #1,2,3 & 16 are remaining below the ICL, hopefully we will never be required to revert back to the original suggested level of 4.5 ppb TCE or 3.5 ppb PCE.

Samples collected on November 23, 1981 indicated that the TCE contamination in well #17 was lower than anticipated - Reason: The pump had been operating six hours only rather than the twenty-four as was stated on the report. Sample collected from #17 on December 8, 1981 indicates that #17 is back to normal.

AR300399

DATE SAMPLE COLLECTED 1/8/81

DATE SAMPLE ANALYZED 12/10/81

LAB CC

AR300400



1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966 • (215) 673-4900 • (215) 355-3900

Hatboro Borough Authority
120 East Montgomery Avenue
Hatboro, PA 19040
Attn: Mr. C. Newton Finney, Supt.

Date Sampled: Nov. 24, 1981
Date Tested: Nov. 25, 1981
Date Reported: Dec. 8, 1981
CC: Norristown
Robert D. Gilmore & Assoc., Inc.

Sample	TCE ppb	PCE ppb
Well 1 Raw (QC#3175)	31.	.5
Well 2 Raw (QC#3176)	27.4	.6
Well 3 Raw (QC#3177)	15.2	<.5
Well 6 Raw (QC#3178)	1.0	<.5
Well 7 Raw (QC#3179)	4.2	<.5
Well 8 Raw (QC#3180)	2.6	0.5
Well 9 Raw QC#3181)	.6	<.5
Well 12 Raw (QC#3182)	4.0	<.5
Well 13 Raw (QC#3183)	<.5	<.5
Well 14 Raw (QC#3184)	136.	.7
Well 15 Raw (QC#3185)	1.1	.7
Well 16 Raw (QC#3186)	18.6	1.2
Well 17 Raw (QC#3187)	168.	1.4
Well 18 Raw (QC#3188)	2.0	3.6
Well 20 Raw (QC#3189)	.6	2.3
Well 21 Raw (QC#3190)	.7	.6
7-11 (QC#3191)	2.0	1.4
PEWCO Hydrant (QC#3192)	.5	.8

QC. INC.

Robert D. Gilmore

je

AR300401

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 12/1/81

RE: TCE/PCE

Enclosed are results of samples collected on November 23, 1981.

A quick analysis of these results (if one could believe them) indicated that we have some slight variations but in general remain basically the same with one exception, Well #17. The TCE in Well #17 approximately three weeks ago was over 400 ppb. The only change that we have made is to alter the pump operation from "on" 24 hours, "off" 24 hours, etc. to "on" 24 hours, "off" 48 hours, etc. This Well, as you know, is being pumped to waste to protect Well #16 and evidently this procedure is working but the question remains: What caused the TCE contamination in Well #17 to drop?

AR300402

DATE SAMPLE COLLECTED

11/23/81

DATE SAMPLE ANALYZED

11/30/81

★

E

QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 on Line 10/15/81		31.0 ↑	0.5 ↓
#2 on Line 9/29/81		27.4 ↑	0.6 ↑
#3 on Line 8/18/81		15.2 ↓	2.5 ↓
#6		1.0 ↓	2.5 —
#7		4.2 ↓	2.5 —
#8		2.6 ↓	0.5 ↑
#9		0.6 ↓	2.5 —
#12 blower off 9/23/81		4.0 ↑	2.5 —
#13		2.5 ↓	2.5 —
#14 idle since 6/17/81		136 ↓	0.7 ↑
#15		1.1 ↓	2.5 —
#16		18.6 ↓	1.2 ↓
#17 pump + waste (on 24 hr - off 48 hr etc) Sample at end of 24 hr pump period		168 ↓	1.4 ↓
#18		2.0 ↑	3.6 ↓
#20		0.6 ↓	2.3 ↑ AR300403
#21		0.7 ↑	0.6 ↑
PSWC. Orangeburg Pd - Fire Hydrant		0.5 —	0.8 ↑
117 A		2.0 ↓	1.4 ↑

✱

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE S-1633
OSBORNE S-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 11/13/81

RE: TCE/PCE

Enclosed are results of samples collected November 9, 1981.

Wells #1, 2 & 16 appear to have improved slightly, but check
#17 !!!!!

The pumping schedule of Well #17, at the present time, is
"on 24 hrs. and off 24 hrs. etc.". This, as I explained in
my last memo, will be altered to "on 24 hrs. and off 48 hrs.
etc.". We'll see what happens to Well #16 from results of
samples collected November 23, 1981.

AR300404

13/6/57

1312151

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AR300405



QUALITY CONTROL LABORATORY DIVISION

1205 Industrial Highway, Southampton, PA 18966

(215) 673-4900
355-3900

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, Penna. 19040

Attn: Mr. C. Newton Finney, Supt.

BACTERIOLOGICAL WATER ANALYSIS REPORT

date sampled 11-9-81
date tested 11-12-81
date reported 11-18-81
sampled by _____
frequency _____
copies to Norristown
Robert D. Gilmore & Assoc.

SAMPLE	Standard Plate Count per ml	Total Coliform Count per 100 ml MPN	Fecal Coliform Count per 100 ml MPN	1,1,1 Trichloro- ethane ppb	TCE ppb	PCE ppb	
Well #1 3069					29.8	0.6	
Well #2 3070					24.6	0.5	
Well #16 3071					15.3	1.1	
Well #17 3072					413.	5.9	

gh

QC INC.

Albert F. Zimmermann

AR300406



1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966 • (215) 673-4900 • (215) 355-3900

Hatboro Borough Authority
120 East Montgomery Avenue
Hatboro, PA 19040
Attn: Mr. C. Newton Finney, Supt.

Date Sampled: Oct. 26, 1981
Date Tested: Oct. 27, 1981
Date Reported: Nov. 4, 1981
CC: Norristown, Robert D. Gilmore &
Assoc., Inc.

Sample	TCE	PCB
	ppb	ppb
Well 1 (QC#2985)	37.8	0.5
Well 2 (QC#2986)	21.0	0.5
Well 3 (QC#2987)	15.8	0.5
Well 6 (QC#2988)	2.0	<.5
Well 7 (QC#2989)	4.7	<.5
Well 8 (QC#2990)	3.1	<.5
Well 9 (QC#2991)	0.8	<.5
Well 12 (QC#2992)	3.1	<.5
Well 13 (QC#2993)	0.7	<.5
Well 14 (QC#2994)	244.	0.5
Well 15 (QC#2995)	2.0	<.5
Well 16 (QC#2996)	22.	1.3
Well 17 (QC#2997)	75.	2.0
Well 18 (QC#2998)	1.2	4.8
Well 20 (QC#2999)	0.8	1.4
Well 21 (QC#3000)	<.5	<.5
HTA 7/11 (QC#3001)	2.4	1.3
Psuco HYD (QC#3002)	<.5	<.5

Robert D. Gilmore
QC. INC. _____

je

AR300407

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 10/29/81

RE: TCE/PCE

Enclosed are results of samples collected 10/26/81.

Upon checking these results against those collected September 28, 1981 and October 12, 1981, you will notice that several indicate an upward trend. Hopefully, they will level off below the interim contamination level (ICL) of 45 ppb TCE and 20 ppb PCE.

I'm going to watch well #16 for awhile - I had planned to change the pumping schedule of well #17 to - on 24hrs. off 48 hrs. etc. but because well #16 is on the rise, I'll leave it go until I receive the results of samples collected November 9, 1981.

Check #17 - down?? Possible Reason:

At 8:15 A.M. on October 26, 1981, #17 pump was shut down - it had been pumping to waste for the previous twenty-four hours. The pump remained off for approximately 2 1/2 hr. - at 10:45 A.M. the pump was started once again and ran approximately 1/4 hr. prior to sampling. This might account for the TCE contamination being considerably lower than normal.

AR300408

DATE SAMPLE COLLECTED 10/26/01
 DATE SAMPLE ANALYZED 10/29/01
 RE QC

*

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 ON Line 10/15/01		37.8 ↑	0.5 —
#2 ON Line 9/29/01		31.0 ↑	0.5 ↑
#3 ON Line 8/18/01		15.8 ↑	0.5 ↑
#6		2.0 ↑	<.5 —
#7		4.7 ↓	<.5 —
#8		3.1 ↑	<.5 —
#9		0.8 ↑	<.5 —
#12 blower off 9/23/01		3.1 ↓	<.5 —
#13		0.7 ↑	<.5 —
#14 pump to waste 3 hrs prior to sampling (idle since 6/17/01)		244 ↑	0.5 ↑
#15		2.0 ↑	<.5 —
#16		22.0 ↑	1.3 ↑
#17 pump to waste (on 24 hrs - off 24 hrs etc)		75.0 ↓	2.0 ↓
#18		1.2 ↓	4.0 ↓
#20		0.8 ↓	1.4 ↓
#21		<.5 —	<.5 —
PSWC - Orangevale Rd - Tric Hydro -		<.5 —	<.5 —

AR300409

X

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 10/14/81

RE: TCE/PCE

Enclosed are results of samples collected on October 12, 1981.

The TCE contamination in Well #1 has been steadily decreasing, consequently I have authorized our Production Manager to prepare #1 for normal operation by the middle of next week (week ending 10/24/81).

Well #16 is hanging right in there.. It appears that by pumping Well #17 (on 24hrs.-off 24 hrs. etc.) to waste is exactly what the Doc ordered.

AR300410

10 | 12 | 81

10/14/81

GL

AR300411

**QC Inc**

QUALITY CONTROL LABORATORY

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966 • (215) 673-4900 • (215) 355-3900

Hathboro Borough Authority
120 East Montgomery Avenue
Hathboro, PA 19040
Attn: Mr. C. Newton Finney, Supt.

Date Sampled: Sept. 29, 1981
Date Tested: Sept. 30, 1981
Date Reported: Oct. 8, 1981
CC: Norristown
Robert D. Gilmore & Assoc., Inc.

Sample	TCE ppb	PCE ppb
Well #1 (QC#2754)	34.6	<.5
Well #2 (QC#2755)	27.1	<.5
Well #3 (QC#2756)	9.8	<.5
Well #6 (QC#2757)	1.5	<.5
Well #7 (QC#2758)	5.3	<.5
Well #8 (QC#2759)	2.1	<.5
Well #9 (QC#2760)	<.5	<.5
Well #12 (QC#2761)	3.2	<.5
Well #12 (QC#2762)	4.2	<.5
Well #13 (QC#2763)	<.5	<.5
Well #14 (QC#2764)	236.	0.6
Well #15 (QC#2765)	<.5	<.5
Raw 16 (QC#2766)	17.	2.2
Raw 17 (QC#2767)	263.	4.0
Raw 18 (QC#2768)	2.1	5.4
Well 20 (QC#2769)	1.2	3.2
Well 21 (QC#2770)	<.5	<.5
Well PERCO (QC#2771)	<.5	<.5
7-11 (QC#2772)	2.7	1.7

QC. INC. _____

je

AR300412

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HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 10/1/81

RE: TCE/PCE

Enclosed are results of samples collected September 28, 1981.

There are some slight variations in the results but nothing outstanding.

#2 Well was reinstated on September 24, 1981 and the results look satisfactory. Keep in mind that the original suggested max level for TCE was 4.5 ppb.

The areators in #12 detention tank have been shut down as of September 23, 1981 and will remain shut down as long as the analysis indicate that we are below the suggested contamination levels.

Incidentally, if you recall, at the Regular Meeting of the Authority in August I was given permission to remove the 40 H.P. motor from #17 pump and replace it with a spare 15 H.P. motor. This would reduce the power cost by approximately 50% and still protect #16 Well by preventing the contamination from spreading. As of September 25, 1981 I was informed by A. C. Schultes & Son, Inc. that they had second thoughts on the matter and were begging off. Reason: their engineering department came to the conclusion that the 15 H.P. motor was not capable of lifting 160 - 180 GPM from the 250' pump setting, even though it was being pumped to waste (not against system pressure). Consequently we were forced to try something else - namely, pumping #17 Well every other day (on 24 hrs., off 24 hrs. etc.). This will reduce the power costs and hopefully prevent the contamination from spreading to #16. We'll see what happens.

AR300413

DATE SAMPLE COLLECTED 7/28/81
 DATE SAMPLE ANALYZED Oct 1, 1981
 LAB QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1	pump to waste 3 hrs prior to sampling	34.6 \downarrow	<.5 -
✓ #2	on line 9/24/81	27.1 \downarrow	<.5 -
#3	on line 8/18/81	9.8 \downarrow	<.5 -
#6		1.5 \downarrow	<.5 -
#7		5.3 \uparrow	<.5 \downarrow
#8		2.1 \downarrow	<.5 -
#9		<.5 \downarrow	<.5 -
✓ #12	Raw Blower off 9/23/81	3.2 \uparrow	<.5 -
#12	Treated " " "	4.2 \uparrow	<.5 -
#13		<.5 -	<.5 -
#14	pump to waste 3 hrs prior to sampling (idle since 6/17/81)	236 \downarrow	.6 -
#15		<.5 \downarrow	<.5 -
#16		17.0 \downarrow	2.2 -
#17	pumping to waste 24 hrs/day since 7/23/81	263 \downarrow	4.0 \downarrow
#18		2.1 \uparrow	5.4 \uparrow
#20		1.2 \downarrow	3.2 \uparrow AR300414
#21		<.5 -	<.5 -
PSWC.	Fire Hydrant (Orangeburg Rd)	<.5 -	<.5 -
	Normal level	\uparrow	\uparrow



1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966 • (215) 673-4900 • (215) 355-3900

Hatboro Borough Authority
120 East Montgomery Avenue
Hatboro, PA 19040
Attn: Mr. G. Newton Finney, Supp.

Date Sampled: Sept. 1, 1981
Date Tested: Sept. 2, 1981
Date Reported: Sept. 21, 1981
CC: Norristown
Robert D. Gilmore & Assoc., Inc.

Sample	TCE ppb	PCE ppb
Well #1 raw	45.6	< .5
Well #2 raw	30.1	< .5
Well #3 Raw	9.1	< .5
Well #6 raw	1.6	< .5
Well #7 raw	4.1	.5
Well #8 raw	2.7	.5
Well #9 raw	.8	< .5
Well #12 raw	3.3	< .5
Well #12 treated	1.4	< .5
Well #13 raw	< .5	< .5
Well #14 raw	256	.6
Well #15 raw	1.5	< .5
Well #16 raw	30.1	7.2
Well #17 raw	322	4.2
Well #18 raw	.8	2.2
Well #20 raw	2.5	2.2
Well #21 raw	< .5	< .5
PSWCO-Hydrant (Orangemans Rd)	< .5	< .5
HTA-7-11 Store (Moreland & Blair Mill)	1.7	1.3

je

QC. INC.

AR300415

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS:

Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 9/17/81

RE: TCE/PCE

Enclosed are the results of samples collected on 9/14/81.

The TCE test analysis on wells #3 and #16 constantly indicates minor fluctuations which are anticipated, especially with the amount of error accumulated in conducting the tests. Well #12 (raw and treated) analysis is confusing, but no doubt caused by the same error in the testing procedure.

Well #2 is being prepared to be put back on line. The amount of TCE contamination has been hanging in there at about 30 PPB. We'll get it in line in the next few days and will keep you posted as to the results.

AR300416

DATE SAMPLE COLLECTED 9/14/81

DATE SAMPLE ANALYZED 9/16/81

LAB CC

~~AR 3001:17~~

★

HATBORD BOROUGH AUTHORITY

HATBORD, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS:

Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: 9/4/81

RE: TCE/PCE

Enclosed are results of samples collected August 31, 1981.

The amount of contamination appears to be holding fairly constant. We see some slight variations, but in general are normal except for Well #16. Samples collected from #16 Well on August 3, 1981 indicated the TCE was 30.1 ppb, on August 17, 1981 it had improved to a low of 18.0 ppb but now we are back again to the 30.1 ppb level again. This Well bears watching.

Incidentally, the 40 HP motor on Well #17 is to be removed next week and the 15 HP motor installed in its place - we'll see what happens the next sampling period (9/14/81).

NOTE: On the 27th of August we officially turned on the inter-connection between Horsham Township Authority and ourselves.

AR300418

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS:

Lou Sayland
James H. Bevan
William Kruse
Robert Doorley
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: August 7, 1981

RE: TCE/PCE

Enclosed are results of samples collected 8/3/81.

The TCE in wells #3 and #16 is improving, hopefully this trend will continue. (That is, if I can believe these results)

Please disregard the TCE results on #12 raw. I have no idea why this occurred but will try again the next time.

Well #18 PCE is improving. If history repeats itself, it won't be long until it's below the recommended 3.55 PPB once again.

Horsham Township Authority has cleaned up their act - we'll see how long it lasts.

You have all received a copy of the letter addressed to Representative Coyne dated August 3, 1981, stating that the M.C.L. for TCE/PCE might take several years to develop. I don't know who is kidding who - but I have discussed this problem with two EPA personnel in the last two days, and I have been informed that they expect an M.C.L. for TCE/PCE in no less than six months.

We'll have to wait and see.

AR300419

DATE SAMPLE COLLECTED

8/3/81

Aug 3 1981

DATE SAMPLE ANALYZED

8/5/81

LAB

QC

★

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 3 hr prior to sampling		44.8 ↑	.7 ↑
#2	II	29.5 ↑	<.5 -
#3	II	10.2 ↓	<.5 -
#6		1.1 ↓	<.5 -
#7		3.7 ↑	.6 ↓
#8		2.1 ↓	<.5 -
#9		.9 ↓	<.5 -
#12 RAW		2.8 ?	<.5 -
#12 Treated		3.4 ↓	.5 ↑
#13		<.5 -	<.5 -
#14 pump to waste 3 hr prior to sampling idle since 6/17/81		243 ↑	.6 -
#15		1.6 ↑	<.5 -
#16	/	30.1 ↓	1.6 ↓
#17 pumping to waste 24 hr/day since 7/23/81		331 ↓	7.3 ↑
#18		1.7 ↓	4.7 ↓
#20		3.4 ↑	1.7 ↓
#21		<.5 -	<.5 -
PSWCo - Fire Hydrant (Orangerman's Pdl)		<.5 -	<.5 -

AR300420



QC Inc

QUALITY CONTROL LABORATORY

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966 • (215) 673-4900 • (215) 355-3900

JK

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, Penna. 19040

Attn: Mr. C. Newton Finney, Supt.

• BACTERIOLOGICAL WATER ANALYSIS REPORT

date sampled 7-24-81
date tested 7-30-81
date reported 8-10-81
sampled by _____
frequency _____
copies to Norristown
Robert D. Gilmore & Assoc.
Inc.

SAMPLE	Standard Plate Count per ml	Total Coliform Count per 100 ml MPN	Fecal Coliform Count per 100 ml MPN	TCE ppb	PCE ppb		
2391 Well #16				35.5	1.7		
2392 Well #3				20.8	< 0.5		
2393 Well #17				482.	4.9		

gh

QC INC.

Albert F. Zimmermann

AR300421

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS:

Lou Sayland
James H. Bevan
William Kruse
Robert Doorley
Charles Acker

FROM: C. Newton Finney, Supt.

DATE: August 3, 1981

RE: TCE/PCE

Enclosed are results of samples collected on 7/24/81.

#3 well is still on the rise but at a slower rate - hopefully samples collected on 8/3/81 will indicate a decline.

#16 well is on the decline - if my theory is correct, it should be back to normal (10-15 PPB TCE) in a month or two.

#17 well is back to its normal self - by pumping 24 hr/day we are picking up the bulk of the contamination in the area and by so doing are protecting neighboring well.

AR300422

LAB

LAB

AR300423

DATE SAMPLE COLLECTED

8/31/81

DATE SAMPLE ANALYZED

9/2/81

LAB

QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1	pump to waste 3 hr prior to sampling	45.6 ↑	<.5 ↓
#2	"	30.1 ↑	<.5 —
#3	ON Line 8/10/81	9.1 ↓	<.5 —
#6		1.6 ↑	<.5 —
#7		4.1 ↑	.5 ↓
#8		2.7 ↑	<.5 —
#9		.8 ↓	<.5 —
#12 raw		8.3 ↓	<.5 —
#12 Treated		1.4 ↓	<.5 —
#13		<.5 —	<.5 —
#14	pump to waste 3 hr prior to sampling (idle since 6/17/81)	256 ↑	.6 —
#15		1.5 ↓	<.5 —
#16		30.1 ↑	2.2 ↑
#17	pumping to waste 29 hr/day since 7/23/81	322 ↓	7.2 ↓
#18		.8 ↓	2.2 ↓
#20		2.5 ↓	2.2 ↑ AR300424
#21		<.5 —	<.5 —
pswco	Free Hydroent (Orangevale Rd)	<.5 —	<.5 —



QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

(215) 673-4900
355-3900

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, Penna. 19040

Sampled - July 7, 1981
Reported - July 24, 1981

Attn: Mr. C. Newton Finney, Supt.

cc: Norristown
cc: Robert D. Gilmore & Assoc. Inc.

SAMPLE	TCE ppb	PCE ppb
#2308 Well #12 Treated Water	4.1	< .5
#2309 7-11 Moreland - Blair Mill	2.4	.7
#2310 Well #9	1.2	< .5
#2311 Well #3	8.8	< .5
#2312 Well #8	2.9	< .5
#2313 Well #6	1.2	< .5
#2314 Well #18	2.4	5.4
#2315 Well #13	< .5	< .5
#2316 Well #17	91.9	2.3
#2317 BSWCO Hydrant, Orangeman's	< .5	< .5
#2318 Well 2	24.5	< .5
#2319 Well #1	39.0	< .5
#2320 Well #14	208.	.6
#2321 Well #15	1.1	< .5
#2322 Well #21	< .5	< .5
#2323 Well #7	3.6	.8
#2324 Well #12	5.0	< .5
#2325 Well #20	< .5	2.0
#2326 Well #16	20.6	2.0

AR300425

gh

QC. INC. *Albert F. Zimmermann*

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 7/23/81

RE: TCE/PCE

Enclosed are results of samples collected on July 20, 1981.

The amount of TCE contamination is on the way up in wells #3 & #16 - #16 in particular. If you recall at our June meeting I was requested to cease pumping well #17 to waste. #17 well has been idle since that time except for pumping to waste three hours prior to sampling on the 20th of July. The results of sampling well #3 and #16 are as follows:

<u>DATE</u>	<u>WELL #3-ppb TCE</u>	<u>WELL #16 ppb TCE</u>
6/17/81	6.7	12.2
7/7/81	8.8	20.6
7/20/81	20.4	40.3

According to the geologist, they claim that well #17 is structurally connected to well #'s 1, 2 & 3 and must be connected partially to well #16 by subsurface fractures. These latest results bears this out.

#16 well, with a TCE contamination of 40.3 ppb, is mighty close to 45 ppb mentioned in the letter from DER dated March 13, 1981 (copy enclosed). This morning I called Lou, explained the circumstances and received permission to pump well #17 to waste once again. Samples will be collected at regular intervals.

The geologist also claims that wells #12 and #14 appear to be interconnected by a common fracture system. I was afraid that by leaving #14 idle, #12 would be affected but this has not occurred as yet. I'll be watching this very closely.

The PCE contamination level in well #18 is still high - hopefully this will correct itself.

AR300426



~~AR300427~~

✱

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE S-1633
OSBORNE S-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 7/10/81

RE: TCE/PCE

Enclosed are results of samples collected on July 7, 1981.

The samples collected from well #12 indicate that the addition of aeration has produced an acceptable finished product.

The contamination in well #14 has jumped back up again. Possibly, like I had mentioned in previous memos, the above normal rainfall and the fact that #14 has been off since June 7, 1981, permits the static water level to increase tremendously. This could be the reason for the increase in contamination.

I'm concerned about well #16, an increase of over 8ppb. I'll resample in two weeks.

The results of #17 well are questionable - to be resampled.

PCE at #18 well are up. We've seen this occur in prior sampling but eventually it would settle down to below the 3.55 ppb maximum. This also will be resampled in two weeks.

AR300428

DATE SAMPLE COLLECTED

7/7/81

DATE SAMPLE ANALYZED

7/9/81

LAB

GC

*

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 3 hr prior to sampling		* 39.6 ↓	< 5 -
#2		* 24.5 -	< 5 -
#3		* 8.8 ↑	< 5 -
#6		1.2 ↑	< 5 -
#7		3.6 ↑	.8 ↑
#8		2.9 ↓	< 5 -
#9		1.2 ↑	< 5 -
#12 Raw		* 5.0 ↑	< 5 -
#12 Treated		4.1 ↑	< 5 -
#13		< 5 -	< 5
#14 pump to waste 3 hr prior to sampling (idle 6/17/81)		* 208 ↑ 122	0.6 ↑
#15		< 1 ↓	< 5 -
#16		* 20.6 ↑ 12.3	2.0 ↑
#17 pump to waste 3 hr prior to sampling (idle 6/17/81)		* 91.9 ↓ 363	2.3 +
#18		2.4 ↑	* 3.4 ↑
#20		< 5 ↓	2.0 ↓
#21		< 5 -	2.3 -
PSWC Fire Hydrant (Orangeburg Rd)		< 5 -	< 5 -
HTA 4-11 store. (Moreland)		2.4 ↑	.7 -

AR300429



QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

(215) 673-4900
355-3900

E. W. Cook, V.M.D.
A. F. Zimmermann

- Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, Penna. 19040

Attn: Mr. C. Newton Finney, Supt.

- BACTERIOLOGICAL WATER ANALYSIS REPORT

date sampled 6-25-81
date tested 6-30-81
date reported _____
sampled by _____
frequency Monthly
copies to Robert D. Gilmore & Sons, Inc.

SAMPLE	Standard Plate Count per ml	Total Coliform Count per 100 ml MPN	Fecal Coliform Count per 100 ml MPN	TCE ppb	PCE ppb		
Well 3 (QC#2205)				6.7	< .5		
Well 16 (QC#2206)				12.2	2.2		
Well 12 East (QC#2207)				1.7	< .5		
Well 12 North (QC#2208)				2.2	< .5		
Well 12 South (QC#2209)				2.2	< .5		
Well 12 Treated (QC# 2210)				3.3	< .5		
7-11 (QC#2211)				1.9	0.7		

gh

QC INC.

Albert F. Zimmermann

AR300430

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 7/1/81

RE: TCE/PCE/PCB

Enclosed are results of samples collected June 17, 1981. The TCE/PCE analyses were available June 23, 1981 but the PCB's require considerably more time to analyze, this is the reason for the delay. The results obtained on the PCB's indicate that we are below the allowable maximum of 4.06 ppb.

The TCE/PCE results look good except #12 well. I question the raw sample results - new TCE/PCE samples will be collected on July 7, 1981 and we'll see how they look at that time. Incidentally, Quality Control admitted that in the analytical procedure there could be a $\pm 20\%$ error below 10 ppb.

Horsham Township Authority has cleaned up their act. They have their well #20 off line and pumping to waste.

AR300431

DATE SAMPLE COLLECTED

6/17/81

DATE SAMPLE ANALYZED

7/1/81

LAB

GC

Note: Quantity Price for PCB
\$ 40.00 each

LOCATION	*Indicates over max.	TCE ppb	PCE ppb	PCB ppm
Well #1 pump to waste 3 hr prior to sampling				<.001 ppm
#2				<.001 ppm
#3		*6.7	<.5	<.001 ppm
#6				<.001
#7				<.001
#8				<.001
#9				<.001
#12 Raw		1.7	<.5	
#12 Treated		3.3	<.5	<.001
#12 1 hr after shut down (South entrance)		2.2	<.5	
#12 1 hr After shut down (North entrance)		2.2	<.5	
#13				<.001
#14 pumping to waste since 3/27/81 (sampled for PCB just prior to shut down)				<.001
#15				<.001
#16		*12.2	2.2	<.001
#17 pumping to waste since 11/10/80 (sampled for PCB just prior to shut down)				<.001
#18				<.001
#20				<.001
#21				<.001
PSWC Fire Hydrant COrangeman's Rd				<.001
HTA 7-11 Store Black Mill + Moreland		1.9	0.7	<.001

AR300432

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 6/3/81

RE: TCE/PCE

Enclosed are results of samples collected on May 29, 1981.

The contamination in Well #3 is gradually decreasing - hopefully this trend will continue.

Well #7 is below the EPA guidelines and appears to be improving.

The amount of contamination in #12 raw water is also holding below the EPA guidelines. We see some improvement in the treated water but not as much as anticipated. Incidentally, the supplier of the aeration equipment did replace the blower and motor coupling on a no charge basis.

The amounts of contamination in the balance of the wells are varying slightly - nothing outstanding.

I had hopes that Horsham Township Authority would clean up their act. The PCE at the 7-11 store at Moreland and Blair Mill Roads has increased again. Keep in mind that the EPA guidelines on PCE is 3.55 ppb.

The results of the two samples collected at Round Meadow Apartments indicate that we have no responsibility there. The U.M. Health Officer will be notified along with the tenants who were involved.

AR300433

DATE SAMPLE COLLECTED

5/29/81

DATE SAMPLE ANALYZED

6/1/81

LAB

QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1	pump to waste 3 hr prior to sampling	* 40.4 ↑	<.5
#2	"	* 24.5 ↑	<.5
#3	"	* 6.1 ↓	<.5
#6		1.0 ↓	<.5
#7		3.5 ↓	0.7
#8		3.1 ↑	<.5
#9		0.7 ↓	<.5
#12	RAW WATER	4.0 -	<.5
#12	TREATED WATER	3.4 -	<.5
" #13		<.5 -	<.5
#14	pumping to waste since 3/24/81	* 122 ↑	0.5
#15		1.3 -	<.5
#16		* 12.3 ↑	1.7
#17	pumping to waste since 11/10/80	* 363 ↓	* 4.1
#18		1.8 ↓	2.7
#20		0.6 ↓	300.234
#21		<.5 -	<.5
PSWC Fire Hydrant (Orangetown Rd.)		<.5 -	<.5
HTA (7-11 store) PLAIN MILL & Moreland		1.2 -	* 7.1 ↑
Roadside Dots DOT B7		2.8	1.3

AR300434



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro Pa. 19040

Sampled - 5-12-81

Reported - 5-26-81

Attn: Mr. C. Newton Pinney, Supt.

Sample	TCE ppb	PCE ppb
7-11 Store	1.2	7.7
Well #17 - Raw	418.	5.2
Well #12 - Treated	5.5	< .5
Well #3 - Raw	8.6	1.3
Well #15 - Raw	10.8	3.0
Well #12 - Raw	5.7	< .5
Well #1 - Raw	51.8	< .5
Well #15 - Raw	1.3	< .5
Well #9 - Raw	1.3	< .5
Well #21 - Raw	< .5	< .5
Well #14 - Raw	102.	.6
Well #18 - Raw	2.7	< .5
Fire Hydrant	< .5	< .5
Well #20 - Raw	1.3	3.0
Creek County Line	3.7	.6

AR300435

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James Bevan
William Kruse
Dr. Robert Doorley

FROM: C. Newton Finney, Supt.

DATE: 5/14/81

RE: TCE/PCE

Enclosed are results of samples collected on May 11, 1981.

Good News --- the TCE contamination level of Well #7 is within EPA guidelines.

The sample from Well #12 was collected prior to the installation of the aeration system - hopefully I can report an improvement in the amount of TCE contamination when the installation is complete.

Happens that the amount of TCE contamination in Well #14 is on the way down - we still have a long ways to go.

Well #16 is beginning to shape up.

Well #18 - check the PCE. This bears watching. I don't like the results of the Horsham Township Authority sample (this is the location of our interconnection). 3.55ppb PCE is EPA guidelines!!!

AR300436

DATE SAMPLE COLLECTED

DATE SAMPLE ANALYZED

LAB

QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1	pump to waste 3 hr prior to sampling	* 31.8	2.5
#2	"	* 22.3	2.5
#3	"	* 8.6	1.3
#6		1.1	2.5
#7		4.3	1.0
#8		2.7	2.5
#9		1.3	2.5
#12	RAW WATER	* 5.7	2.5
#12	TREATED WATER	* 5.5	2.5
#13		2.5	2.5
#14	pumping to waste since 3/24/81	* 102	0.6
#15		1.3	2.5
#16		* 10.8	3.0
#17	pumping to waste since 11/10/80	* 418	* 5.2
#18		2.1	* 3.9
#20		1.3	3.0
#21		2.5	2.5
PSWC Fine Hydrant (Orangetown Rd)		2.5	2.5
Fort A (7-11 Store) Blair Mill & Moreland		1.2	* 7.7
Creek County Line (Livingstone Apartment)		3.7	.6

*

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS:

Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 5/6/81

RE: TCE/PCE

Enclosed are results of samples collected on May 1, 1981. Well #3 is back up again. I was afraid that the 3.4 ppb TCE was too good to be true. Later on this Spring, I might be requesting permission to re-instate this Well - I realize that it's a low producer (approximately 90 GPM and we must add liquid caustic to control the pH) but it is below the chronic toxicity level. I'll keep you posted.

Well #16 is hanging right in there - discharging 215 GPM. It's a big help.

AR300438

DATE SAMPLE COLLECTED 5/1/81

DATE SAMPLE ANALYZED 5/5/87

LAE CC

[illegible]



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, PA 19040

Att: Mr. C. Newton Finney, Supt.

Date Sampled: 4/27/81
Date Reported: 5/07/81
c.c.: Norristown/Gilmore
& Assoc., Inc.

SAMPLE	TCE ppb	PCE ppb
Well #12	4.8	<0.5
" # 9	1.5	<0.5
" #17	323.	3.9
" #14	171.	<0.5
" #20	0.7	3.2
Creek adj. to Well 20	<0.5	<0.5
Creek adj. to Well 12	22.	<0.5
Well #12 - Treated	5.5	<0.5
Well #16	11.2	2.6
Well #13	1.6	<0.5
PSW Co.	<0.5	<0.5
Well #15	1.7	<0.5
Well #21	<0.5	<0.5
Well #18	2.4	3.0
HTA 7-11 Blair Mill & Moreland Rds.	2.0	1.7
Creek - County Line	0.7	<0.5
Well #3	3.4	<0.5
Well #6	1.4	<0.5
Well #8	3.4	<0.5
Well #7	4.9	1.4
Well #1	40.9	0.5
Creek adj. to Well 7	12.8	<0.5
Well #2	25.1	0.5

AR300440

Ant F Zimmermann

A

HATBORO BOROUGH AUTHORITY

HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS:

Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 5/1/81

RE: TCE/PCE

Enclosed are results of samples collected on April 27, 1981.

If the results of Well #3 are correct - we could put this back on line. I've authorized another sample to be collected and the results should be available early next week.

Well #7 (on line 4/7/81) appears to be settling down. If this same trend continues, it won't be long before we are within the recommended guidelines.

Well #12 "RAW & TREATED" are just the reverse of what I thought they should be. Fact is - this is the second time this has occurred. I questioned Quality Control on these results and was informed that this could happen in this installation with the addition of Chlorine even though we do have some minor aereation taking place in the open detention tank.

Well #16 (on line 4/29/81) will be resampled and results available early next week.

The sample collected from Moreland Road and Blair Mill Rd. (Horsesham Township Authority) is acceptable now. If you recall, the PCE was 15 ppb a few weeks ago!!! We will continue to monitor this area in the future.

I have taken the liberty of enclosing two letters regarding chronic toxicity levels. One from DER (which you all have had copies prior) and one from EPA addressed to Harry Borchers, Jr. North Penn Water Authority. Check the levels!!! Who are we to believe?

AR300441

DATE SAMPLE COLLECTED

1/27/81

DATE SAMPLE ANALYZED

4/30/81

LAB

QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
WELL #1	PUMP TO WASTE 3HRS PRIOR TO SAMPLING	* 40.9	<.5
#2	"	* 25.1	0.5
#3	" ?	3.4	<.5
#6		1.4	<.5
#7		* 4.9	1.4
CREEK ADJACENT TO WELL #7		* 12.0	<.5
#8		3.4	<.5
#9		1.5	<.5
#12 RAW WATER		* 4.8	<.5
#12 TREATED WATER		* 5.5	<.5
CREEK ADJACENT TO WELL #12		* 22	<.5
#13		1.6	<.5
#14	PUMPING TO WASTE SINCE 3/24/81	* 171	<.5
#15		1.7	<.5
#16	PUMP TO WASTE 3HRS PRIOR TO SAMPLING	* 11.2	2.6
#17	PUMPING TO WASTE SINCE 11/10/80	* 323	* 3.9
#18		2.4	3.0
#20		0.7	3.1
CREEK ADJACENT TO WELL #20		<.5	AR300442
#21		<.5	<.5
PSWCO FIRE HYDRANT (ORANGEMHILL RD)		<.5	<.5
A 7-11 STORE BLAIR MILL + MORELAND		2.0	1.7
CREEK COUNTY LINE (LIVINGSTONE APTS)		0.7	<.5

★

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS:

Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: David Lutz, Foreman

DATE: 4/20/81

RE: TCE/PCE

The results of the last test are about the same. Results show the PCE level in Well #18 is down. Enclosed in the last memo dated April 2, 1981, Newt expressed the possibility of a problem with Horsham Authority's Well #20. We took a sample from the 7-11 Store at Blair Mill Rd. and Moreland Ave. (Horsham Township). The result came back showing this Well to be high in PCE (15ppb), while our #20 Well showed a drop in both TCE and PCE from sample taken April 3, 1981.

The next sampling date is April 27, 1981. I feel we should re-sample this store to see if the PCE level is still high before anything is said or done about this problem.

AR300443

★

DATE SAMPLE COLLECTED 4/13/81
 DATE SAMPLE ANALYZED 4/16/81
 LAB QC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 3 hr prior to sampling		*46	<1.5
#2	"	*19.3	<1.5
#3	"	*8.3	<1.5
#6		1.4	<1.5
#7 pumping to waste since 11/12/80		*5.8	1.0
Creek adjacent to well #7		11	<1.5
#8		3.5	<1.5
#9		2.5	<1.5
#12 RAW water		*6.1	<1.5
#12 Treated water		*4.6	<1.5
Creek adjacent to well #12		12.7	<1.5
#13		1.2	<1.5
#14 pumping to waste since 3/24/81		*151	<1.5
#15		2.5	<1.5
#16 pump to waste 3 hr prior to sampling		*13.5	3.8
#17 pumping to waste since 11/10/80		*319	3.3
#18		2.6	2.7
#20		0.6	1.9
Creek adjacent to well #20		0.6	AR300444
#21		<1.5	<1.5
PSWC6 Fire Hydrant (Overman's Rd)		<1.5	<1.5
Creek County Line (Livingstone Spout)		1.7	<1.5
HTA - Moreland + Black Mill Rd (7-11)		1.5	1.5



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P O Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, PA 19040

Att: Mr. Newton Finney, Supt.

Sampled 3/31/81
Reported: 4/03/81
c.c.: Norristown/
Robt. Gilmore & Assoc.

Sample	QC #	TCE ppb	PCE ppb
#1	1795	48.1	0.5
#2	1796	28.9	<0.5
#3	1797	11.2	<0.5
#6	1798	1.2	<0.5
#7	1799	6.1	1.2
#8	1800	2.7	<0.5
#9	1801	1.5	<0.5
#12 Raw	1802	3.9	<0.5
#12 Treated	1803	6.2	<0.5
#13	1804	<0.5	<0.5
#14	1805	136.	<0.5
#15	1806	2.1	<0.5
#16	1807	14.4	3.5
#17	1808	388.	4.7
#18	1809	2.4	3.6
#20	1810	1.0	2.1
#21	1811	<0.5	<0.5
PSW Co.	1812	0.7	<0.5

lei

EPA Standards
TCE 4.5 ppb
PCE 3.55 ppb

QC INC.

AR300445

*

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 4/2/81

RE: TCE/PCE

Enclosed are results of samples collected on March 30, 1981.

These results indicate that wells 2,3,7&16 are below the 45 ppb TCE and 25 ppb PCE guidelines (revised). If you recall, at the regular meeting of the Authority in March, it was agreed that the letter received from Lewis Luchie, Jr., Regional Sanitarian Manager DER, dated 3/13/81 should be released to the newspapers as soon as possible. This was accomplished shortly after the Board Meeting. At that time, I was also directed to defer restoring these wells for a period of two to three weeks to determine what reaction we might encounter from our customers. I realize it has only been approximately two weeks since that release but I am very anxious for your decision.

Number 12 well is really confusing. You'll notice we have two results of samples collected from well #12. One from raw water and one from treated. The intent was to determine if there was the possibility of some minor aeration occurring where the raw water is spilled into the detention tank. To my surprise, according to these results, the contamination is greater in the treated than it is in the raw water sample. The only conclusion that I can come up with is that somewhere between collecting the sample and reporting the result, the identification tags were switched!!! This information brought a very important question to mind - where have we been collecting the sample? To my dismay - and I accept all responsibility - the sample has been collected from the raw water tap rather than the treated!!! Because of this confusion, I authorized additional samples to be collected immediately. Results should be available Thursday, April 2, 1981. Now then - the two aerators and the blower had been ordered. When I discovered the error, I immediately authorized Mr. Schmauk to put a "Hold" on the order for at least a couple days to give me the opportunity to straighten this mess out. Mr. Schmauk did call and informed me that the order is in "Hold". If these new results indicate that the treated water is still at or above the 4.5 ppb TCE, we will remove the "Hold" and proceed as originally planned. If, on the other hand, the results are acceptable, I would like to have the authority to cancel the order and terminate the project. Please keep in mind that well house #12 is one of a kind.

AR300446

★

Page 2 - MEMO TO ALL BOARD MEMBERS dated 4/2/81

Gentlemen, I got chicken - I authorized well #14 to be pumped to waste once again -- I'm concerned that if we don't pump this well, wells #9, 12 or even 20 could become highly contaminated - what then?

Check well #17 - on the rise.

Well #20 - the results I can't believe. This well is being resampled - results available April 2, 1981. I attended a meeting at Horsham Township Authority on April 1, 1981 - bids for the interconnection will be opened in May and should be on line in July. BAD NEWS - this is between you and I, Horsham's well #20 (1500' N.W. of our well #20) has a contamination level of 6ppb PCE. They had trouble with this well last year but it cleared up - Now its happened again. This leaves a big fat question mark in my mind.

AR300447

DATE SAMPLE COLLECTED

3/30/81

DATE SAMPLE ANALYZED

4/1/81

LAB

GC

*

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 3 h. prior to sampling		*48.1	0.5
#2		*28.9	<1.5
#3		*11.2	<1.5
#6		1.2	<1.5
#7 pumping to waste since 11/12/80 Creek adjacent to well #7		*6.1 10.0	1.2 2.5
#8		2.7	<1.5
#9		1.5	<1.5
#12 RAW WATER - ? GC		3.9	<1.5
#12-TREATED WATER Creek adjacent to well #12		*6.2 24.8	<1.5 2.5
#13		<1.5	<1.5
#14 pumping to waste since 3/24/81		*136	<1.5
#15		2.4	<1.5
#16 pump to waste 3 h. prior to sampling		*14.4	3.5
#17 pumping to waste Since 11/10/80		*388	*4.7
#18		2.4	*3.6
#20		1.0	2.1
Creek adjacent to well #20		<1.5	RP500448
#21		<1.5	<1.5
Red Barn Mill (Private well)		1.0	<1.5
PSWC Fire Hydrant (Owensboro's Rd)		0.7	<1.5
Creek County Line (Livingstone Apart)		<1.5	<1.5



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, PA 19040

Att: Mr. Newton Finney, Supt.

Sampled: 3/17/81
Reported: 3/27/81
c.c.: Robt. Gilmore/
Norristown

SAMPLE	TCE ppb	PCE ppb
Well #1	52.2	0.7
#2	23.0	0.5
#3	22.0	0.5
#6	1.7	<0.5
#7	5.9	1.3
#8	3.3	<0.5
#9	1.7	<0.5
#12	7.4	<0.5
#13	0.7	<0.5
#14	113.	0.6
#15	2.9	<0.5
#16	15.9	4.1
#17	291.	4.1
#18	2.6	3.0
#20	1.7	3.4
#21	<0.5	<0.5
Well Adj. to #7	22.	0.5
Well Adj. to #12	5.2	<0.5
PSW Co.	0.7	<0.5
Creek County	6.7	<0.5

AR300449

Robert F. Zimmermann

EPA Standards

QC INC.

PCE 4.5 ppb

PCE 5.55 ppb

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA



WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS:

Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 3/19/81

RE: TCE/PCE

Compare samples collected on March 2, 1981 against these enclosed and you'll notice as I did, that the amount of contamination is on the way up. As I stated in my memo on March 9, 1981, the amount of rainfall could be a major factor in the amount of contamination.

The correspondence received from Mr. Lou Luchie, DER, responding to my inquiry about establishing an interim on TCE/PCE contamination, was welcome. I had hopes that this action would be for the benefit of all water purveyors throughout the State, but I was not so lucky. If it had been, I had hopes that they would handle the "PR" notification and relieve some of the responsibility from us. As it is, we're stuck with it, that is if you still approve reinstating those wells with less than 45 ppb TCE and 20 ppb PCE. From the attached results #'s 2, 3, 7 and 16 Wells can be put back on line.

Hopefully, the installation of the proposed aerators in the detention tank at well house #12 will reduce the contamination to below the 4.5 ppb TCE and present no further problem.

In Lou Luchie's letter, he stated that quote: "The increased carcinogenic risk which would be associated with the use of these wells for a period of three to four months will be minimal (approximately 3 in 100,000,000)". In that three to four month period, I have great hopes that the Horsham interconnection will be completed or nearing completion and if need be (if too much pressure is put on us), we can remove those contaminated wells once again until we do receive the MCL.

I was invaded by EPA and Ecology & Environment Inc. yesterday. Mr. Robil Aitken, Environmental Engineer and four men from Ecology & Environment Inc. were here to start work on conducting an internal inspection of sanitary sewer lines near the Fisher & Porter plant. I'll attempt to keep you posted on their findings.

My apology - when I sent out the latest draft on the interconnection agreement between Warminster Municipal Authority and ourselves, I neglected to request you to make notes of any corrections.

AR300450

Page 2 - Memo to all Board Members - 3/19/81

X

or additions you deem necessary.

✓ On Page 3 - paragraph #3 is missing??? On Page 4, the current rate must be established and agreed upon. On Page 4, paragraph 5 (last line) quote: "confirmed in writing within 12 hours of turn on". This I don't like!!! The present proposed intended purpose of this connection is for emergency (fire, etc.). If we have a bad fire, this would hinder the effectiveness of the interconnection.

AR300451

DATE SAMPLE COLLECTED 1/16/81
 DATE SAMPLE ANALYZED 3/18/81
 LAB CC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1 pump to waste 3 hr prior to sampling	*	52.2	0.7
#2	*	23	0.5
#3	*	22	0.5
#4		1.7	< 5
#7 pumping to waste since 11/12/80 creek adjacent to well #7	*	5.9 22.0	1.3 0.5
#8		3.3	< 5
#9		1.7	< 5
#12 creek adjacent to well #12	*	7.4 5.2	< 5 < 5
#13		0.7	< 5
#14 pump to waste 3 hr prior to sampling	*	113	0.6
#15		2.9	< 5
#16 pump to waste 3 hr prior to sampling	*	15.9	4.1
#17 pumping to waste since 11/10/80	*	291	4.1
#18		2.6	3.0
#20		1.2	3.4 AR300452
#21		< 5	< 5
PSWCo Fire Hydrant (Oberlin's Rd)		0.7	< 5
Creek County Line (Limestone Appt)		6.7	< 5



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, PA 19040

Att: Newton Finney, Supt.

BACTERIOLOGICAL WATER ANALYSIS REPORT

date sampled 3/05/81
date tested 3/06/81
date reported 3/13/81
sampled by del'd
frequency _____
copies to Norristown/Gilmore & Assoc.

SAMPLE	Standard Plate Count per ml	Total Coliform Count per 100 ml MPN	Fecal Coliform Count per 100 ml MPN	TCE ppb	PCE ppb		
RE: Wells							
#3 (QC #1640)				19.7	<0.5		
#7 (QC #1641)				7.3	0.6		
#12 (QC #1642)				1.0	<0.5		
#16 (QC #1643)				16.1	1.6		

EPA Standards

QC INC.

TCE 4.5 ppb
PCE 3.55 ppb

AR300453
A. F. Zimmermann

X

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO BOARD MEMBERS: Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 3/9/81

RE: TCE/PCE

Enclosed are results of samples collected on March 2nd, 3rd, 4th & 5th. These results indicate that pumping the Wells to waste for only three hours prior to sampling does not give you a true picture of the amount of contamination in that particular area. I'll use Well #3 as an example.

- #1. 3/2/81 - sample collected 5-10 minutes after start-up (pump idle since 2/17/81)
TCE 14.5 ppb PCE <.5 ppb
- #2. 3/3/81 - sample collected after 24 hrs. of continuous operation
TCE 22.0 ppb PCE <.5 ppb
- #3. 3/4/81 - sample collected after 48 hrs. of continuous operation
TCE 25.0 ppb PCE 0.6 ppb
- #4. 3/5/81 - sample collected after 72 hrs. of continuous operation
TCE 19.7 ppb PCE <.5 ppb

Notice that #16 Well behaves in a similar manor under the same circumstances.

Well #7 is very unpredictable. There are some water purveyors that believe that the amount of rainfall in the area had a direct connection to the amount of contamination in a well - in other words, the more rainfall the more contamination. In some cases, I'm inclined to agree. This might be the reason for Well #7 to be steadily climbing again.

Well #7 results as follows:

- 3/2/81 - 3.6ppb TCE <.5 ppb PCE (This result should be disregarded - too far below average.)
- 3/3/81 - 5.8 ppb TCE 0.7 ppb PCE
- 3/4/81 - 6.7 ppb TCE 0.6 ppb PCE
- 3/5/81 - 7.3 ppb TCE 0.6 ppb PCE

AR300454

Page 2

Another factor that we must keep in mind is that #14 Well was shut off at 3:00 P.M. on February 26, 1981. This Well had been pumping to waste 24 hr./day since October 22, 1980. There is the remote possibility that the contamination from Well #14 is finding its way towards Well #7.

Other than the sample collected on March 5, 1981, Well #12 is fairly constant but the creek adjacent to Well #12 has decreased considerably in the amount of contamination, and of course the reason for this decrease is very obvious - Well #14 is shut down. If there is a slight direct connection between the stream and Well #12, the results do not indicate same. Well #12 will be resampled on Monday, March 9, 1981 - results should be available March 11, 1981.

Mr. Bob Schmauk has been working on the reduction of the contamination in Well #12. Hopefully, his suggestions will be available for your consideration in the very near future.

AR300455

DATE SAMPLE COLLECTED 3/2/81
 DATE SAMPLE ANALYZED 3/4/81
 LAB GC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1	pump to wash 3 hr prior to sampling	* 34.4	2.5
#2	"	* 14.5	2.5
#3	Sample at time of start up (9:30 AM)	* 14.5	2.5
#6		1.5	2.5
#7	pumping to waste since 11/10/80 Creek adjacent to well #7	Time (11:10 AM) 3.6 ?	2.5
#8		* 8.3	2.5
#9		3.6	2.5
#12	sample After 8 hrs of operation Creek adjacent to well #12	Time (2:30 PM) 2.5	2.5
#13		* 6.2	2.5
#14	pumping to waste since 10/26/80 turned off 2/26/81 3 PM	2.1	2.5
#15		< 5	2.5
#16	sample at time of start up	* 3.1	2.5
#17	pumping to waste since 11/10/80	Time (8:45 AM) 10.5	3.1
#18		* 182	3.1
#19		2.9	1.6
#20		2.5	2.6
#21		AR300456 2.5	2.5
PIWCO	Fire Hydrant (Orangeburg Rd) Creek-by Monument - Ave - East Park entrance	* 2.5 19	2.5 2.5

✱

LAP

66

[illegible]

DATE SAMPLE COLLECTED 4/5/81

DATE SAMPLE ANALYZED 3/6/81

LAB QC

AR300459



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, PA 19040

Att: Mr. Newton Finney

BACTERIOLOGICAL WATER ANALYSIS REPORT

date sampled 3/04/81
date tested 3/05/81
date reported 3/11/81
sampled by Del'd
frequency _____
copies to Norristown/ Gilmore Assoc.

SAMPLE RE: Well Samples	Standard Plate Count per ml	Total Coliform Count per 100 ml MPN	Fecal Coliform Count per 100 ml MPN	TCE ppb	PCE ppb		
#3 (QC #1635) 9:30				25.	0.6		
#7 (QC #1636) 11:10				6.7	0.6		
#12 (QC #1637)				6.1	<0.5		
#16 (QC #1638) 8:45				17.8	2.3		

lei

Q C INC.

EPA Standards

TCE 4.5 ppb
PCE 3.55 ppb

AR300460

Albert F. Zimmermann



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
130 East Montgomery Ave.
Hatboro, PA 19040

Att: Mr. C. Newton Finney, Supt.

BACTERIOLOGICAL WATER ANALYSIS REPORT

date sampled 3/03/81
date tested 3/04/81
date reported 3/11/81
sampled by Del'd
frequency _____
copies to Norristown/Gilmore & Ass.

SAMPLE	Standard Plate Count per ml	Total Coliform Count per 100 ml MPN	Fecal Coliform Count per 100 ml MPN	TCE ppb	PCE ppb		
RE: Well Samples							
#3 (QC #1630)				22.	<0.5		
#7 (QC #1631)				5.8	0.7		
#12 (QC #1632)				5.1	<0.5		
#16 (QC #1633)				14.7	2.4		

101

Q C INC.

EPA Standards

TCE 4.5 ppb
PCE 3.55 ppb

AR300461

Albert F. Zimmermann



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Date Submitted: March 2, 1981

Date Reported: March 11, 1981

Hatboro Borough Authority
120 East Montgomery Avenue
Hatboro, Pa. 19040

Att: Mr. Newton Finney

<u>Sample</u>	<u>QC #</u>	<u>TCE ppb</u>	<u>PCE ppb</u>	<u>Sample</u>	<u>QC #</u>	<u>TCE ppb</u>	<u>PCE ppb</u>
Well #1	1609	34.4	<0.5	PSW Co.	1624	<0.5	<0.5
Well #2	1610	14.5	<0.5	Creek Adj. to Well 7	1625	8.3	<0.5
Well #3	1611	14.5	<0.5	Creek Adj. to Well 12	1626	4.1	<0.5
Well #6	1612	1.5	<0.5	Creek - County Line, Livingston Apts.	1627	<0.5	<0.5
Well #7	1613	3.6	<0.5	Creek - W. Monument East Park Ent.	1628	19.	<0.5
Well #8	1614	3.6	<0.5				
Well #9	1615	2.5	<0.5				
Well #12	1616	6.2	<0.5				
Well #13	1617	<0.5	<0.5				
Well #15	1618	3.1	<0.5				
Well #16	1619	10.5	3.1				
Well #17	1620	182.	3.1				
Well #18	1621	2.9	1.6				
Well #20	1622	<0.5	2.6				
Well #21	1623	<0.5	<0.5				

QC INC *Robert F. Zimmermann*

AR300462

jsl

cc: DER-Norristown
R.D. Gilmore



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, PA 19040

Att: Newton Finney, Supt.

Sampled: 2/17/81
Reported: 2/20/81
c.c.: Norristown/
Robt. D. Gilmore & Assoc.

EPA Standards

TCE 4.5 ppb
PCE 3.55 ppb

Sample	QC #	TCE ppb	PCE ppb
Well #1	1538	34.0	<0.5
2	1539	33.0	<0.5
3	1540	6.7	<0.5
6	1541	1.4	<0.5
7	1542	5.6	0.5
8	1543	2.8	<0.5
9	1544	2.8	<0.5
12	1545	6.1	<0.5
13	1546	<0.5	<0.5
14	1547	150	<0.5
15	1548	3.1	<0.5
16	1549	10.2	3.1
17	1550	245	3.8
18	1551	2.8	1.3
20	1552	1.0	2.3
21	1553	<0.5	<0.5
PSW Co.	1554	<0.5	<0.5
Creek adjacent to Well 7	1555	10.6	<0.5
" " Well 12	1556	26.1	<0.5
" " - County Line Rd. at Livingstone Apts.	1557	1.0	<0.5

AR300463

Art F. Zimmermann

HATBORO BORO' SH AUTHORITY

120 E. MONTGOMERY AVE., HATBORO, PA. 19040

OS 5-1633

Feb. 20, 1981

Results of second test Well #12 is 6.0 ppb TCE

AR300464

*

HATBORO BOROUGH AUTHORITY
HATBORO, PENNSYLVANIA

WATER SERVICE OFFICE
120 E. MONTGOMERY AVENUE

OSBORNE 5-1633
OSBORNE 5-1634

MEMO TO ALL BOARD MEMBERS:

Lou Sayland
James H. Bevan
Dr. Robert Doorley
William Kruse

FROM: C. Newton Finney, Supt.

DATE: 2/20/81

RE: TCE/PCE

Enclosed are results of samples collected Feb. 17, 1981.

If you've ever felt like you were fighting a losing battle, you know exactly how I feel at this point. Well #7 was so close to the recommended level that I had anticipated the probability of putting it back on line; but as one can see, we're on the incline once again. Well #12 has more or less been a borderline case for months, but has never before reached this level of contamination. To double check the results of contamination in Well #12, I authorized another sample to be analyzed on February 19, 1981 and the results should be available prior to the distributing of this memo - see attached note. If the results of this sample indicate that we are still running above the max suggested contamination level, we have three alternatives:

- #1. Remove #12 from the system (I can't afford to lose 210 GPM) but think what the media could do to us if this little morsel was publicized.
- #2. Cease pumping #14 Well to waste (contaminated water discharged from Well #14 flows past Well #12 at a level of 26.1 ppb TCE - there is a remote possibility that there is a small direct connection between the stream and the Well causing the contamination level in Well #12 to increase). On the other hand - if we cease pumping Well #14 to waste, we must consider the possibility of permitting the contamination to spread to other adjacent wells.
- #3. Continue to pump Well #12 into the system and patiently wait for an interim to be released. When discussing our problems with EPA a few days ago, I was informed that in March 1981, they THINK that an interim will be released - possibly 25 ppb TCE and 40 ppb PCE. I've heard this song before, so don't hold your breath. If this information is fact - #3, #7 & #16 Wells could be put back on line and of course #12 Well would be acceptable at its present level.

If you have any suggestions, please feel free to comment.

AR300465

DATE SAMPLE COLLECTED 2/17/81
 DATE SAMPLE ANALYZED 2/19/81
 LAB OC

LOCATION	*Indicates over max.	TCE ppb	PCE ppb
Well #1	pump to waste 3 hr prior to sampling	* 34.0	< .5
#2	"	* 33.0	< .5
#3	"	* 6.7	< .5
#6	"	1.4	< .5
#7	pumping to waste since 11/12/80	* 5.6	0.5
Creek adjacent to well #7		* 10.6	< .5
#8		2.8	< .5
#9		2.8	< .5
#12		* 6.1	< .5
Creek adjacent to well #12		* 26.1	< .5
#13		< .5	< .5
#14	pumping to waste since 10/22/80	* 15.0	< .5
#15		3.1	< .5
#16	pump to waste 3 hr prior to sampling	* 10.2	13.1
#17	pumping to waste since 11/10/80	* 24.5	* 3.8
#18		2.8	1.3
#20		1.0	2.3
#21		< .5	< .5
DSWC	Oranmore Rd Fire Hydrant	< .5	< .5

AR300466



673-4900
(215) 355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Date Sampled - 2-2-81
Date Reported - 2-5-81

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, Penna. 19040

Att: Mr. C. Newton Finney, Supt.

WATER SAMPLE	SODIUM mg/l
Well #1 (QC#09382)	16.1
Well #2 (QC#09383)	16.2
Well #3 (QC#09384)	19.9
Well #6 (QC#09385)	15.3
Well #7 (QC#09386)	34.5
Well #8 (QC#09387)	19.8
Well #9 (QC#09388)	12.3
Well #10 (QC#09389)	16.2
Well #13 (QC#09390)	11.1
Well #14 (QC#09391)	25.3
Well #15 (QC#09392)	24.1
Well #16 (QC#09393)	16.0
Well #17 (QC#09394)	11.4
Well #18 (QC#09395)	24.4
Well #20 (QC#09396)	12.9
Well #21 (QC#09397)	14.5
P.S.W.CO. (QC#09398)	33.4

cc: Norristown
Robert D. Gilmore & Assoc. Inc.

gh

AR300467



(215) 673-4900
355-3900

QUALITY CONTROL LABORATORY

1205 Industrial Highway, P.O. Box 514, Southampton, PA 18966

E. W. Cook, V.M.D.
A. F. Zimmermann

Hatboro Borough Authority
120 East Montgomery Ave.
Hatboro, PA 19040

Attn: Mr. C. Newton Finney, Supt.

Sampled: 2/02/81
Reported: 2/05/81
c.c.: Norristown/
✓ Robert Gilmore & Assoc.

<u>SAMPLE</u>	<u>TCE</u> <u>ppb</u>	<u>PCE</u> <u>ppb</u>
Well #1 (QC #1452)	34.6	<0.5
#2 (QC #1453)	33.	<0.5
#3 (QC #1454)	6.1	<0.5
#6 (QC #1455)	1.5	<0.5
#7 (QC #1456)	5.1	0.7
#8 (QC #1457)	2.6	0.5
#9 (QC #1458)	2.6	<0.5
#12 (QC #1459)	4.6	<0.5
#13 (QC #1460)	<0.5	<0.5
#14 (QC #1461)	190.	0.7
#15 (QC #1462)	2.0	<0.5
#16 (QC #1463)	11.2	3.6
#17 (QC #1464)	151.	2.1
#18 (QC #1465)	2.8	0.9
#20 (QC #1466)	<0.5	0.85
#21 (QC #1467)	<0.5	<0.5
PSW Co. (QC #1468)	<0.5	<0.5

EPA Standards

TCE 4.5 ppb
PCE 3.55 ppb

AR300468

Robert F. Zimmermann
QC INC.